Manualslib.com - The Global Manuals Library

JVC LT-32WX84 SERVICE MANUAL

Table of Contents

Table of Contents
PRECAUTION
SPECIFIC SERVICE INSTRUCTIONS
DISASSEMBLY
ADJUSTMENT
TROUBLESHOOTING
standard circuit diagram
RECEIVER PWB CIRCUIT DIAGRAM
VIDEO PWB CIRCUIT DIAGRAM
POWER PWB CIRCUIT DIAGRAM
REGULATOR PWB CIRCUIT DIAGRAM
FRONT SENSOR PWB CIRCUIT DIAGRAM
FRONT CONTROL PWB CIRCUIT DIAGRAM
RECEIVER PWB PATTERN
VIDEO PWB PATTERN
POWER PWB PATTERN
REGULATOR PWB PATTERN
FRONT SENSOR PWB PATTERN
FRONT CONTROL PWB PATTERN
Other ManualsLib Projects

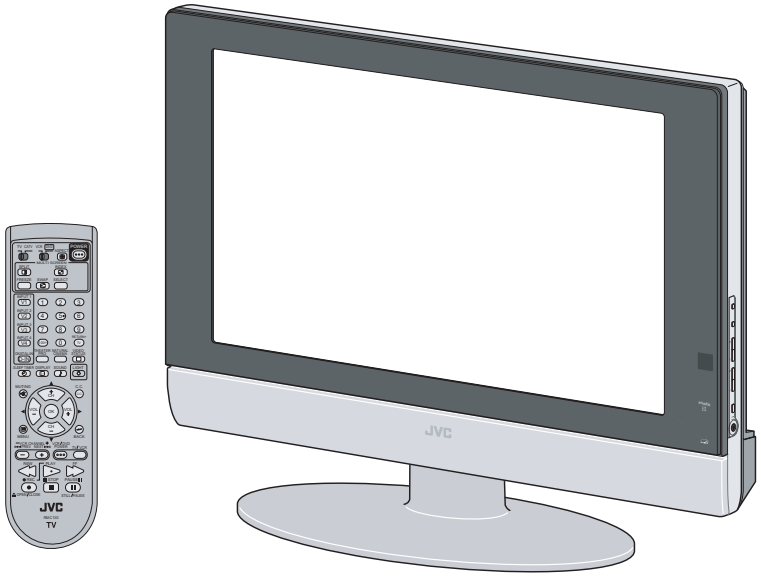
JVC

SERVICE MANUAL

LCD FLAT TELEVISION

LT-32WX84 /HA

BASIC CHASSIS
SB5



I'Art™ Palette

D.I.S.T. Digital Image Scaling Technology

BBE

TABLE OF CONTENTS

1 PRECAUTION 1-3
2 SPECIFIC SERVICE INSTRUCTIONS 1-6
3 DISASSEMBLY 1-11
4 ADJUSTMENT 1-17
5 TROUBLESHOOTING 1-49

COPYRIGHT © 2004 VICTOR COMPANY OF JAPAN, LIMITED

No.YA004
2004/2

SPECIFICATION

Items		Contents
Dimensions (W × H × D)		83.3cm × 63.8 cm × 26.0 cm (32-7/8" × 25-1/8" × 10-1/4") [Included stand] 83.3cm × 56.9 cm × 9.7 cm (32-7/8" × 25-5/8" × 3-7/8") [TV only]
Mass		21.4 kg (47.1 lbs) [Included stand] 18.6 kg (39.1 lbs) [TV only]
Power Input		AC120V , 60Hz
Power Consumption		223W (Max)
TV RF System		CCIR (M)
Color System		NTSC
Sound System		BTSC (Multi Channel Sound)
TV Receiving Channels and Frequency	VHF Low VHF High UHF CATV	02ch~06ch : 54MHz~88MHz 07ch~13ch : 174MHz~216MHz 14ch~69ch : 470MHz~806MHz 54MHz~804MHz Low Band : 02~06, A-8 by 02~06&01 High Band : 07~13 by 07~13 Mid Band : A~I by 14~22 Super Band : J~W by 23~36 Hyper Band : W+1~W+28 by 37~64 Ultra Band : W+29~W+84 by 65~94, 100~125 Sub Mid Band : A4~A1 by 96~99
TV / CATV Total Channel		180 Channels
Intermediate Frequency	Video IF Sound IF	45.75 MHz 41.25 MHz (4.5MHz)
Color Sub Carrier		3.58 MHz
LCD panel		32-inch wide aspect (15:9)
Screen Size		Diagonal : 80.2cm (H:41.2cm × V : 68.7cm)
Display Pixels		Horizontal : 1280 dots × Vertical : 768 dots (W-XGA)
Audio Power Output		10W + 10W
Speaker		6.6cm, round type × 2 (Oblique corn)
Antenna terminal (VHF/UHF)		F-type connector, 75Ω unbalanced, coaxial
Video / Audio input Input-1/2/3	Component Video [Input-1] 1125i / 750p 525p / 525i S-Video [Input-1/2] Video Audio	RCA pin jack × 3 Y : 1V (p-p) (Sync signal: 0.35V(p-p), 3-value sync.), 75 Ω Pb/Pr : 0.35V(p-p), 75 Ω Y : 1V (p-p), Positive (Negative sync provided), 75 Ω Pb/Pr : 0.35V(p-p), 75 Ω Mini-DIN 4 pin × 2 Y: 1V (p-p), Positive (Negative sync provided), 75 Ω C: 0.286V (p-p) (Burst signal), 75 Ω 1V (p-p), Positive (Negative sync provided), 75 Ω, RCA pin jack × 3 500mV (rms), High impedance, RCA pin jack × 6
Digital-in	Video Audio	DVI-D 24-pin connector × 1 (Digital-input terminal is not compatible with computer signal) 500mV (rms), Low impedance, RCA pin jack × 2
Monitor output	S-Video Video Audio	Mini-DIN 4 pin × 1 Y: 1V (p-p), Positive (Negative sync provided), 75 Ω C: 0.286V (p-p) (Burst signal), 75 Ω 1V (p-p), Positive (Negative sync provided), 75 Ω RCA pin jack × 1 500mV (rms), Low impedance, RCA pin jack × 2
Headphone		3.5mm stereo mini jack × 1
Remote Control Unit		RM-C13G (AA/R6/UM-3 battery × 2)

Design & specifications are subject to change without notice.

SECTION 1
PRECAUTION

1.1 SAFETY PRECAUTIONS

(1) The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.

(2) Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.

(3) Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (⚠) on the parts list in Service manual**. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.

(4) **Use isolation transformer when hot chassis.**
The chassis and any sub-chassis contained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.

(5) **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED (NEUTRAL) : (⏚) side GND and EARTH : (⏚) side GND.
Don't short between the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND and never measure the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND at the same time with a measuring apparatus (oscilloscope etc.). If above note will not be kept, a fuse or any parts will be broken.

(6) If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See B1 POWER SUPPLY check).

(7) Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10kΩ 2W resistor to the anode button.

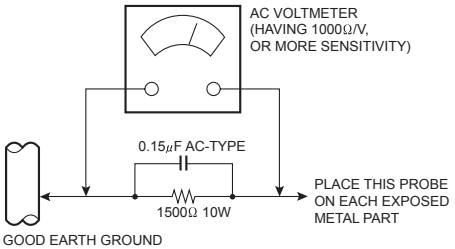
(8) When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

(9) **Isolation Check (Safety for Electrical Shock Hazard)**
After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

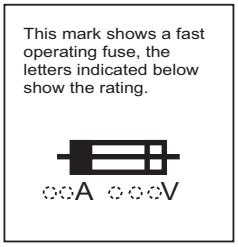
a) **Dielectric Strength Test**
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 1100V AC (r.m.s.) for a period of one second.
(. . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.) This method of test requires a test equipment not generally found in the service trade.

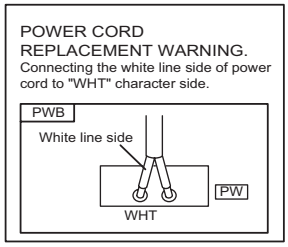
b) **Leakage Current Check**
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

Alternate Check Method
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000Ω per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a 0.15μF AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).
However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



(10) **High voltage hold down circuit check.**
After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly.See item **"How to check the high voltage hold down circuit"**.

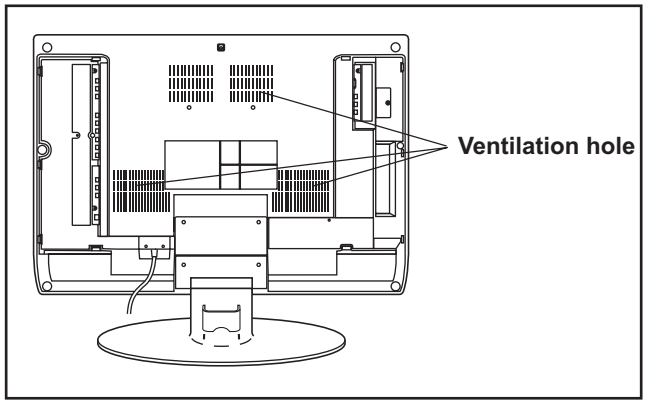




1.2 INSTALLATION

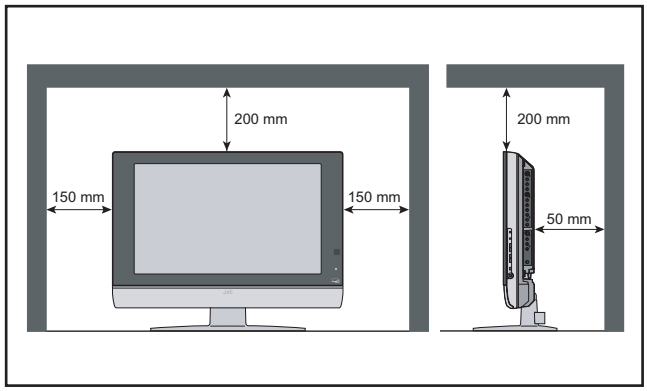
1.2.1 HEAT DISSIPATION

If the heat dissipation vent behind this unit is blocked, cooling efficiency may deteriorate and temperature inside the unit will rise. The temperature sensor that protects the unit will be activated when internal temperature exceeds the pre-determined level and power will be turned off automatically.Therefore, please make sure pay attention not to block the heat dissipation vent as well as the ventilation outlet behind the unit and ensure that there is room for ventilation around it.



1.2.2 INSTALLATION REQUIREMENTS

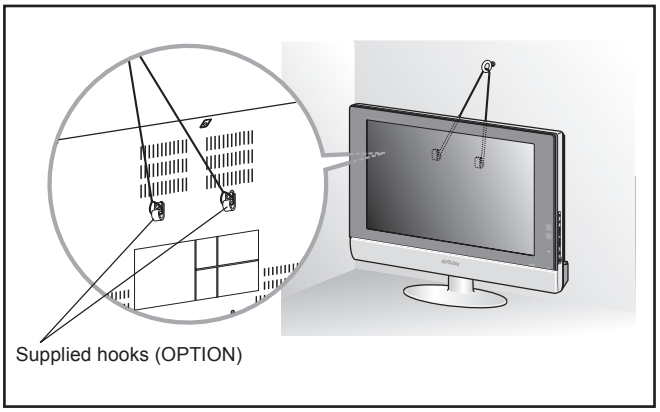
Ensure that the minimal distance is maintained, as specified below, between the unit with and the surrounding walls, as well as the floor etc.Install the unit on stable flooring or stands.Take precautionary measures to prevent the unit from tipping in order to protect against accidents and earthquakes.



1.2.3 INSTALLATION REQUIREMENTS

To ensure safety in an emergency such as an earthquake, and to prevent accidents, ensure that measures are taken to prevent the TV dropping or falling over.

Use the supplied screws to firmly attach the supplied hooks (OPTION) to the back of the TV, and use commercially available cord to fix the TV to rigid components such as walls and columns.



1.2.4 NOTES ON HANDLING

(1) WHEN TAKING UNIT OUT OF A PACKING CASE

When taking the unit out of a packing case, do not grasp the upper part of the unit. If you take the unit out while grasping the upper part, the LCD PANEL may be damaged because of a pressure. Instead of grasping the upper part, put your hands on the lower backside or sides of the unit.

(2) AS FOR PRESSING OR TOUCHING A SPEAKER

Be careful not to press the opening of the speaker in the lower part of the unit and around them since the decorative sheet on the surface of the openings may be deformed.

1.3 HANDLING LCD PANEL

1.3.1 PRECAUTIONS FOR TRANSPORTATION

When transporting the unit, pressure exerted on the internal LCD panel due to improper handling (such as tossing and dropping) may cause damages even when the unit is carefully packed. To prevent accidents from occurring during transportation, pay careful attention before delivery, such as through explaining the handling instructions to transporters.

Ensure that the following requirements are met during transportation, as the LCD panel of this unit is made of glass and therefore fragile:

(1) USE A SPECIAL PACKING CASE FOR THE LCD PANEL
When transporting the LCD panel of the unit, use a special packing case (packing materials). A special packing case is used when a LCD panel is supplied as a service spare part.

(2) ATTACH PROTECTION SHEET TO THE FRONT
Since the front (display part) of the panel is vulnerable, attach the protection sheet to the front of the LCD panel before transportation. Protection sheet is used when a LCD panel is supplied as a service spare part.

(3) AVOID VIBRATIONS AND IMPACTS
The unit may be broken if it is toppled sideways even when properly packed. Continuous vibration may shift the gap of the panel, and the unit may not be able to display images properly. Ensure that the unit is carried by at least 2 persons and pay careful attention not to exert any vibration or impact on it.

(4) DO NOT PLACE EQUIPMENT HORIZONTALLY
Ensure that it is placed upright and not horizontally during transportation and storage as the LCD panel is very vulnerable to lateral impacts and may break. During transportation, ensure that the unit is loaded along the traveling direction of the vehicle, and avoid stacking them on one another. For storage, ensure that they are stacked in 2 layers or less even when placed upright.

1.3.2 OPTICAL FILTER (ON THE FRONT OF THE LCD PANEL)

(1) Avoid placing the unit under direct sunlight over a prolonged period of time. This may cause the optical filter to deteriorate in quality and color.

(2) Clean the filter surface by wiping it softly and lightly with a soft and lightly fuzz cloth (such as outing flannel).

(3) Do not use solvents such as benzene or thinner to wipe the filter surface. This may cause the filter to deteriorate in quality or the coating on the surface to come off. When cleaning the filter, usually use the neutral detergent diluted with water. When cleaning the dirty filter, use water-diluted ethanol.

(4) Since the filter surface is fragile, do not scratch or hit it with hard materials. Be careful enough not to touch the front surface, especially when taking the unit out of the packing case or during transportation.

1.3.3 PRECAUTIONS FOR REPLACEMENT OF EXTERIOR PARTS

Take note of the following when replacing exterior parts (REAR COVER, FRONT PANEL, etc.):

(1) Do not exert pressure on the front of the LCD panel (filter surface). It may cause irregular color.

(2) Pay careful attention not to scratch or stain the front of the LCD panel (filter surface) with hands.

(3) When replacing exterior parts, the front (LCD panel) should be placed facing downward. Place a mat, etc. underneath to avoid causing scratches to the front (filter surface).

SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

2.1 FEATURES

- New chassis design enable use of an interactive on screen control.
- MOTION COMPENSATION : With this function, the seamless reproduction of dynamic motion on the screen has been realized.
- Bullet-in 3 dimension Y/C separate circuit.
- Receive DTV broadcast (1125i / 750p / 525p / 525i)
- Built-in HDCP / Component (Y / Pb / Pr) input.
- Built-in Hyper Sound, BBE circuit.
- DIST is a digital high-definition image processing technology that converts various image input signals such as NTSC(525i), 525p, 750p, and 1125i into a format with the best resolution for a display device such as a plasma display panel, and displays high-definition images.

2.2 TECHNICAL INFORMATION

2.2.1 LCD PANEL

This unit uses the flat type panel LCD (Liquid Crystal Display) panel that occupies as little space as possible, instead of the conventional CRT (Cathode Ray Tube), as a display unit.
Since the unit has the two polarizing filter that are at right angles to each other, the unit adopts "normally black" mode, where light does not pass through the polarizing filter and the screen is black when no voltage is applied to the liquid crystals.

2.2.1.1 SPECIFICATIONS

The following table shows the specifications of this unit.

Item	Specifications	Remarks
Maximum dimensions (W × H × D)	76.4cm × 46.5cm × 3.8cm	
Weight	8.0kg	
Effective screen size	Diagonal : 80.2cm (H:41.2cm × V : 68.7cm)	32V type
Aspect ratio	15:9	
Drive device/ system	a-Si-TFT, active matrix system	
Resolution	Horizontally 1280 × Vertically 768 × RGB <W-XGA>	2949120 dots in total
Pixel pitch (pixel size)	Horizontally:0.4425mm, Vertically:0.4425mm	
Displayed color	16777216 colors	256 colors for R, G, and B
Brightness	470cd/m^2	
Contrast ratio	500:1	
Response time	13ms	
View angle	Vertically 170°, horizontally 170°	
Surface Polarizer	Anti-Glare type	
Color Filter	Vertical stripe	
Backlight	Cold cathode fluorescent lamp × 16	
Power Supply Voltage in LCD	12V	
Power Supply Voltage in Backlight	1290V (rms)	

2.2.1.2 PIXEL FAULT

There are three pixel faults - bright fault , dark fault and flicker fault - that are respectively defined as follows.

(1) BRIGHT FAULT

In this pixel fault, a cell that should not light originally is lighting on and off.
For checking this pixel fault, input ALL BLACK SCREEN and find out the cell that is lighting on and off.

(2) DARK FAULT

In this pixel fault, a cell that should light originally is not lighting or lighting with the brightness twice as brighter as originally lighting.
For checking this pixel fault, input 100% of each R/G/B colour and find out the cell that is not lighting.

(3) FLICKER FAULT

In the pixel fault, a cell that should light originally or not light originally is flashing on and off.
For checking this pixel fault, input ALL BLACK SCREEN signal or 100% of each RGB colour and find out the cell that is flashing on and off.

2.2.2 MAIN MICRO COMPUTER (CPU) FUNCTION

Pin No.	Pin name	I/O	Function
1	BS_RXD	O	Not used
2	MICON_V	I	Vertical sync for OSD / CLOSED CAPTION
3	LB_PRO	I	Low B protection detect [Detection : H]
4	NC	---	Not used
5	/RST	I	Reset [Reset : L]
6	HDMI_INT	I	Not used
7	/TEST	I	3.3V
8	OSD_YS	O	YS for OSD / CLOSED CAPTION
9	(DPCRST)	O	Not used
10	BS/DIN	O	Not used
11	(A_MU)(LED_5)	O	Not used
12	MICON_H	I	Horizontal sync for OSD / CLOSED CAPTION
13	(A_MU)(LED_4)	O	Not used
14	P46,OSDXI	---	Not used
15	P45,OSDXO	---	Not used
16	(SDA2)	I/O	Not used
17	AC_IN	I	AC power (60Hz) for time clock
18	(SCL2)	O	Not used
19	(TU_POW)	O	Not used
20	VCOI	I	LPF input
21	PDO	O	LPF output
22	/IP_RESET	O	Reset (L) [Reset : L]
23	OSD_YM	O	YM for OSD / CLOSED CAPTION
24	OSD_B	O	B signal output for OSD / CLOSED CAPTION
25	POW_LED	O	Lighting for power [Lighting : H]
26	OSD_G	O	G for OSD / CLOSED CAPTION
27	OSD_R	O	R for OSD / CLOSED CAPTION
28	VRE	I	Reference voltage
29	IP_ERR	I	AMDP program load
30	IREF	I	Reference current
31	COMP	I	Reference conpare
32	AVDD	I	3.3V
33	CLL	O	Not used
34	VREFLS	I	Reference voltage (For SUB CCD)
35	SUB_CCD	I	Not used
36	NC	---	Not used
37	VSS	I	GND
38	MAIN_CCD	I	Not used
39	VREFHS	I	Standard voltage (For Main CCD)
40	CLH	I	Not used
41	VDD/VPP	I	3.3V
42	CLKSW1	O	IP clock switch [ON : L]
43	CLKSW2	O	IP clock switch [ON : L]
44	ON_TIM	O	Not used
45	SBO01	O	Port for writing on board

Pin No.	Pin name	I/O	Function
46	SBD01	I	Port for writing on board / Communication (XTD) for SUB CPU
47	SBT1	I	Port for writing on board / Communication (RTD) for SUB CPU
48	HP_VOL	O	Headpone volume control (0V-3.3V)
49	/BS_RESET	O	Not used
50	HDMI_ASW	O	Not used
51	BS1.5CTL	O	Not used
52	ODU_OUT	O	Not used
53	15/11_SW	O	Not used
54	ODU_PRO	O	Not used
55	BS_POW	---	Not used
56	BS3.3CTL	O	Not used
57	AFT2	I	Not used
58	/LOB_POW	O	Low B power control [Detection : H]
59	COMPULING	I	Not used
60	/POWERGOOD	I	Power condition check [ON : L]
61	MECHA_SW	I	Mechanical (POWER) swtich detection [Pussing : L]
62	/MAIN_POW	O	Main power control [ON : L]
63	NC	---	Not used
64	(B1_POW)	O	Not used
65	AFT1	---	Not used
66	(X_RAY)	I	GND
67	(EE_CDS)	I	GND
68	KEY2	I	Key scan data [ON : H]
69	KEY1	I	Key scan data [ON : H]
70	SCL1	O	I^2C bus clock (For Main memory)
71	SDA1	I/O	I^2C bus data (For Main memory)
72	REMO	I	Remote control data
73	(AP_REQ)(LED_2)	O	Not used
74	VSS	I	GND
75	OSC2	O	4MHz oscillation for system clock
76	OSC1	I	4MHz oscillation for system clock
77	VDD	I	3.3V
78	SCL0	O	I^2C bus clock (For general)
79	(AP_CLK)(LED_1)	O	Not used
80	SDA0	I/O	I^2C bus data (For general)
81	BSLK(D_CLOCK)	O	Not used
82	BS_TXD(D_DATA)	I	Not used
83	NC	---	Not used
84	P_MU	O	Picture muting [Muting : H]

2.2.3 SUB MICRO COMPUTER (CPU) FUNCTION

Pin No.	Pin name	I/O	Function
1	(SYSTEM0)	I	GND
2	(SYSTEM3)	I	GND
3	AVCC	-	5V
4	X2	-	Not used
5	X1	-	Not used
6	VCL	-	Internal down voltage
7	RES	I	Reset [Reset : L]
8	TEST	I	Operation test for SUB CPU
9	VSS	-	GND
10	OSC2	O	10MHz oscillation for system clock
11	OSC1	I	10MHz oscillation for system clock
12	VCC	-	5V
13	NC	O	Not used
14	NC	O	Not used
15	BL_D2	O	Back light 20ms delay for LCD panel [On:L]
16	BL_D1	O	Back light 10ms delay for LCD panel [On:L]
17	I2C_STOP	O	Not used
18	BL_ON	O	Back light reset for LCD panel [Reset:L]
19	NC	O	Not used
20	NC	O	Not used
21	NC	O	Not used
22	NC	O	Not used
23	SDA1	I/O	I^2C bus data (For Sub memory)
24	A.DIM	O	Not used
25	SCL1	O	I^2C bus clock (For Sub memory)
26	SDA0	I/O	I^2C bus data (For general)
27	SCL0	O	I^2C bus clock (For general)
28	NC	O	Not used
29	NC	O	Not used
30	NC	O	Not used
31	NC	O	Not used
32	NC	O	Not used
33	NC	O	Not used
34	NC	O	Not used
35	NMI	I	Port for writing on board [Writning:L]
36	NC	O	Not used
37	(HD)	I	Not used
38	NC	O	Not used
39	(REMO)	I	Not used
40	NC	O	Not used
41	P85	-/I	Not used
42	P86	-	Not used
43	P87	-	Not used
44	SCK3	O	Port for writing on board
45	RXD	I	Port for writing on board

Pin No.	Pin name	I/O	Function
46	TXD	O	Port for writing on board
47	(PROTECTOR0)	I	Not used
48	NC	O	Not used
49	RXD2	I	Port for communication (Main cpu)
50	TXD2	O	Port for communication (Main cpu)
51	NC	O	Not used
52	(ACTIVE)	I	Not used
53	VD	I	Vertical sync
54	(REC_DET)	I	Not used
55	(PSS)	I	Not used
56	(ALARM)	I	Not used
57	(SYSTEM2)	I	Not used
58	(SYSTEM1)	I	Not used
59	(PROTECTOR1)	I	Not used
60	(AMP_PRO2)	I	Not used
61	(AMP_PRO1)	I	Not used
62	EE_CDS	I	Not used
63	(KEY_IN1)	I	Not used
64	(KEY_IN2)	I	Not used

SECTION 3
DISASSEMBLY

3.1 DISASSEMBLY PROCEDURE

NOTE:

Since this model adopts a layer structure, follow the procedure below in disassembling this model.
Be careful enough not to damage or scratch parts.

3.1.1 REMOVING THE STAND

(1) Remove the 2 screws [A], and remove the STAND COVER.
(2) Remove the 4 screws [B], and remove the STAND.

3.1.2 REMOVING THE REAR COVER

- Remove the STAND.
  (1) Remove the JACK COVER (L/R).
  (2) Remove the 7 screws [C], 3 screws [D], and 2 screws [E] (12 screws in total).
  (3) Remove the REAR COVER.

3.1.3 REMOVING THE REGULATOR PWB / COOLING FAN

- Remove the STAND.
- Remove the REAR COVER.
  (1) Pull out the wire of COOLING FAN.
  (2) Remove the 5 screws [F], and remove the FAN BRACKET.
  (3) Remove the 2 screws [Y], and remove the COOLING FAN.
  (4) Remove the REGULATOR PWB.

3.1.4 REMOVING THE RECEIVER PWB

- Remove the STAND.
- Remove the REAR COVER.
- Remove the FAN BRACKET.
  (1) Remove the 2 screws [G] and 3 screws [H] (5 screws in total). Then, remove the TERMINAL BASE.
  (2) Remove the 6 screws [J], and remove the RECEIVER PWB.

3.1.5 REMOVING THE FRONT CONTROL PWB CONTROL / FRONT SENSOR PWB

- Remove the STAND.
- Remove the REAR COVER.
  (1) Remove the 2 screws [K], and remove the CONTROL KNOB.
  (2) Remove the 2 screws [L], and remove the FRONT CONTROL PWB.
  (3) Remove the FRONT SENSOR PWB.

3.1.6 REMOVING THE VIDEO PWB / MI-COM & DIST MODULE PWB

- Remove the STAND.
- Remove the REAR COVER.
- Remove the FAN BRACKET.
  (1) Remove the 3 screws [M] and remove the JACK BASE.
  (2) Remove the 5 screws [N] and remove the VIDEO PWB SHIELD.
  (3) Remove the 2 screws [P], and remove the VIDEO PWB.
  (4) Remove the 5 screws [R], and remove the VIDEO PWB BRACKET.
  (5) Remove the 4 screws [S], and remove the MI-COM & DIST MODULE PWB form the VIDEO PWB BRACKET.

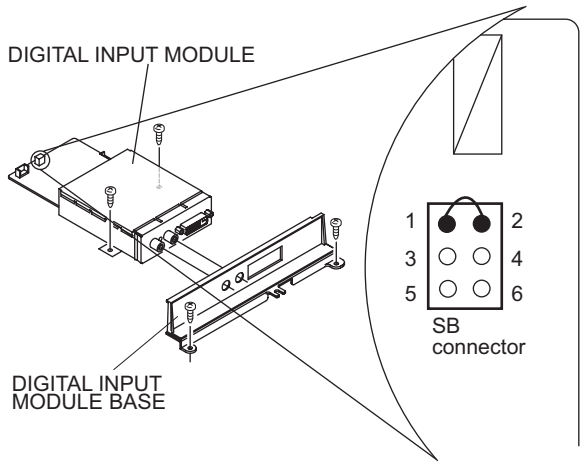
3.1.7 REMOVING THE POWER PWB

- Remove the STAND.
- Remove the REAR COVER.
- Remove the FAN BRACKET.
- Remove the RECEIVER PWB.
  (1) Remove the 4 screws [T], and remove the RECEIVER PWB BRACKET.
  (2) Remove the 1 screw [U], and remove the POWER CORD HOLDER.
  (3) Remove the 5 screws [V], and 1 screw [W] . Then, remove the POWER PWB.
  (4) Remove the 4 screws [X], and remove the CHASSIS BASE.

3.1.8 REMOVING THE DIGITAL INPUT MODULE PWB

- Remove the STAND.
- Remove the REAR COVER.
  (1) Remove the 2 screws [Q], and remove the DIGITAL INPUT MODULE BASE.
  (2) Remove the 2 screws [Z], and remove the DIGITAL INPUT MODULE PWB.

CAUTION AT DISASSEMBLY



- Prior to disassembly, unplug the power code from the AC outlet without fail. (Turn the power "off".)
- Short the SB connector [1] pin and [2] pin of the DIGITAL INPUT MODULE. (At the time of assembling)
- Before the rear panel is inserted into the cabinet, release the short-circuit between the SB connector [1] pin and [2] pin of the DIGITAL INPUT MODULE.
- After releasing the short-circuit between the SB connectors, do not turn the power on until the rear panel is inserted into the cabinet.
- Negligence in carrying out the above steps may cause the inactivation of the TV.

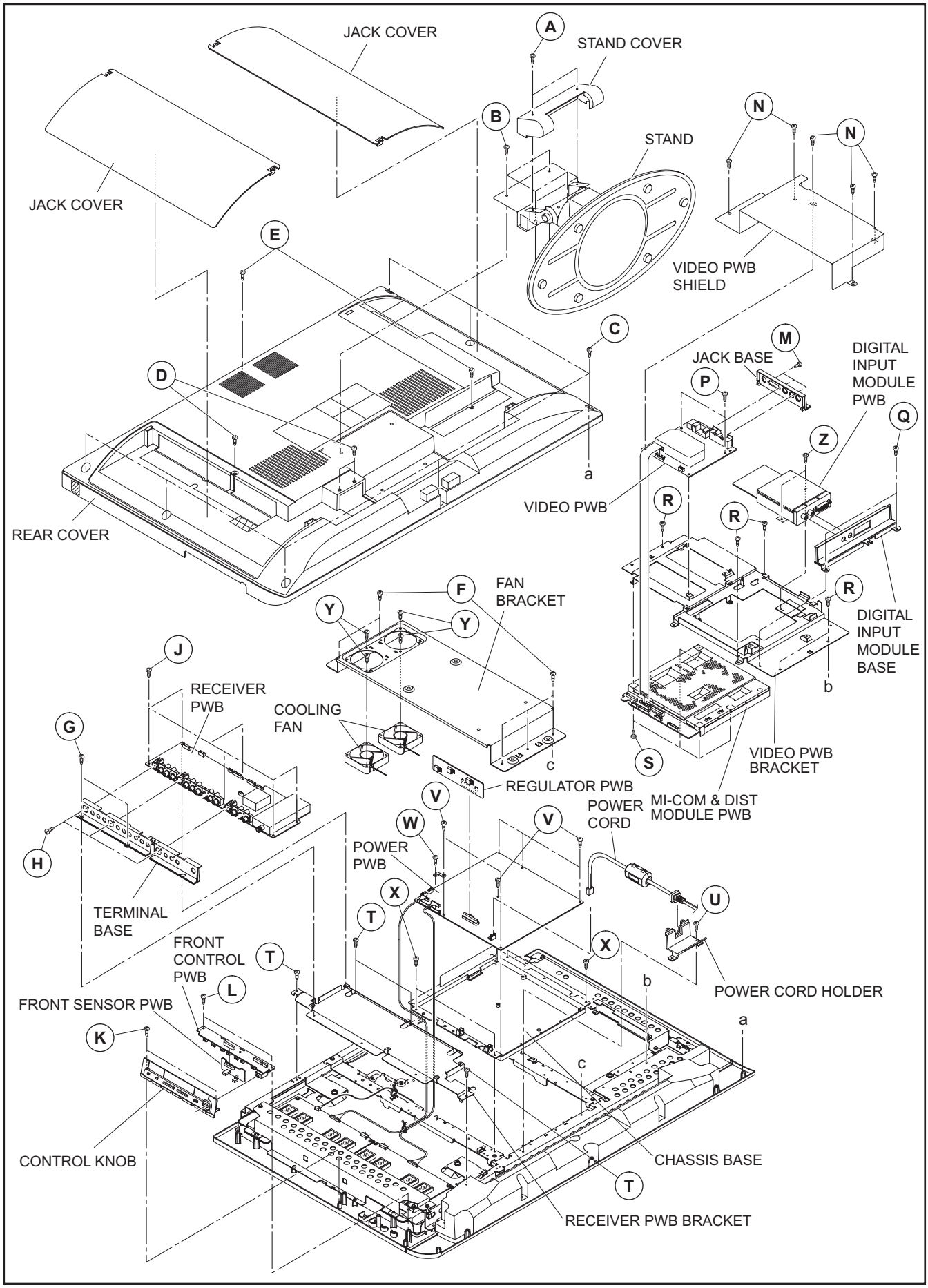

JACK COVER
A
STAND COVER
B
STAND
N
N
JACK COVER
E
VIDEO PWB
SHIELD
C
M
JACK BASE
DIGITAL
INPUT
MODULE
PWB
P
Q
Z
D
a
VIDEO PWB
R
R
REAR COVER
R
F
FAN
BRACKET
Y
Y
DIGITAL
INPUT
MODULE
BASE
J
b
RECEIVER
PWB
COOLING
FAN
G
c
S
VIDEO PWB
BRACKET
REGULATOR PWB
V
MI-COM & DIST
MODULE PWB
POWER
CORD
W
V
POWER
PWB
H
X
U
T
TERMINAL
BASE
X
FRONT
CONTROL
PWB
T
b
POWER CORD HOLDER
L
FRONT SENSOR PWB
a
K
c
CHASSIS BASE
CONTROL KNOB
T
RECEIVER PWB BRACKET

Fig.1

3.1.9 REMOVING THE SPEAKER

- Remove the STAND.
- Remove the REAR COVER.
  (1) Remove the 5 screws [a], and remove the SPEAKER BOX.
  (2) Remove the 4 screws [b], and remove the SPEAKER (L / R).
  (3) Remove the 4 screws [c], and remove the DUCT(L/R).

NOTE:

Since the speaker is attached in a certain direction, attach the speaker in the same correct direction as it has been attached.

3.1.10 REMOVING THE LCD PANEL UNIT

- Remove the STAND.
- Remove the REAR COVER.
- Remove the POWER CORD.
- Remove the RECEIVER PWB.
- Remove the FRONT CONTROL PWB.
- Remove the FRONT SENSOR PWB.
- Remove the VIDEO PWB.
- Remove the DIGITAL INPUT MODULE PWB.
- Remove the MI-COM & DIST MODULE PWB.
- Remove the POWER PWB.
  (1) Remove the 3 screws [d], the 2 screws [e] and the 2 screws [f] (7 screws in total). Then, remove the FRAME(R).
  (2) Remove the 3 screws [g], and the 2 screws [h] (4 screws in total). Then, remove the FRAME (L).
  (3) Remove the 3 screws [j]. Then, remove the CENTER FRAME.
  (4) Remove the 2 screws [k] and the 1 screw [m] (3 screws in total). Then, remove the TOP FRAME.
  (5) Remove the 4 screws [n], and the 2 screws [p] (6 screws in total). Then, remove the BOTTM FRAME.
  (6) Remove the 8 screws [r]. Then, remove the TOP INVERTER UNIT and BOTTOM INVERTER UNIT.
  (7) Remove the 1 screw [q]. Then, remove the LCD PANEL UNIT.

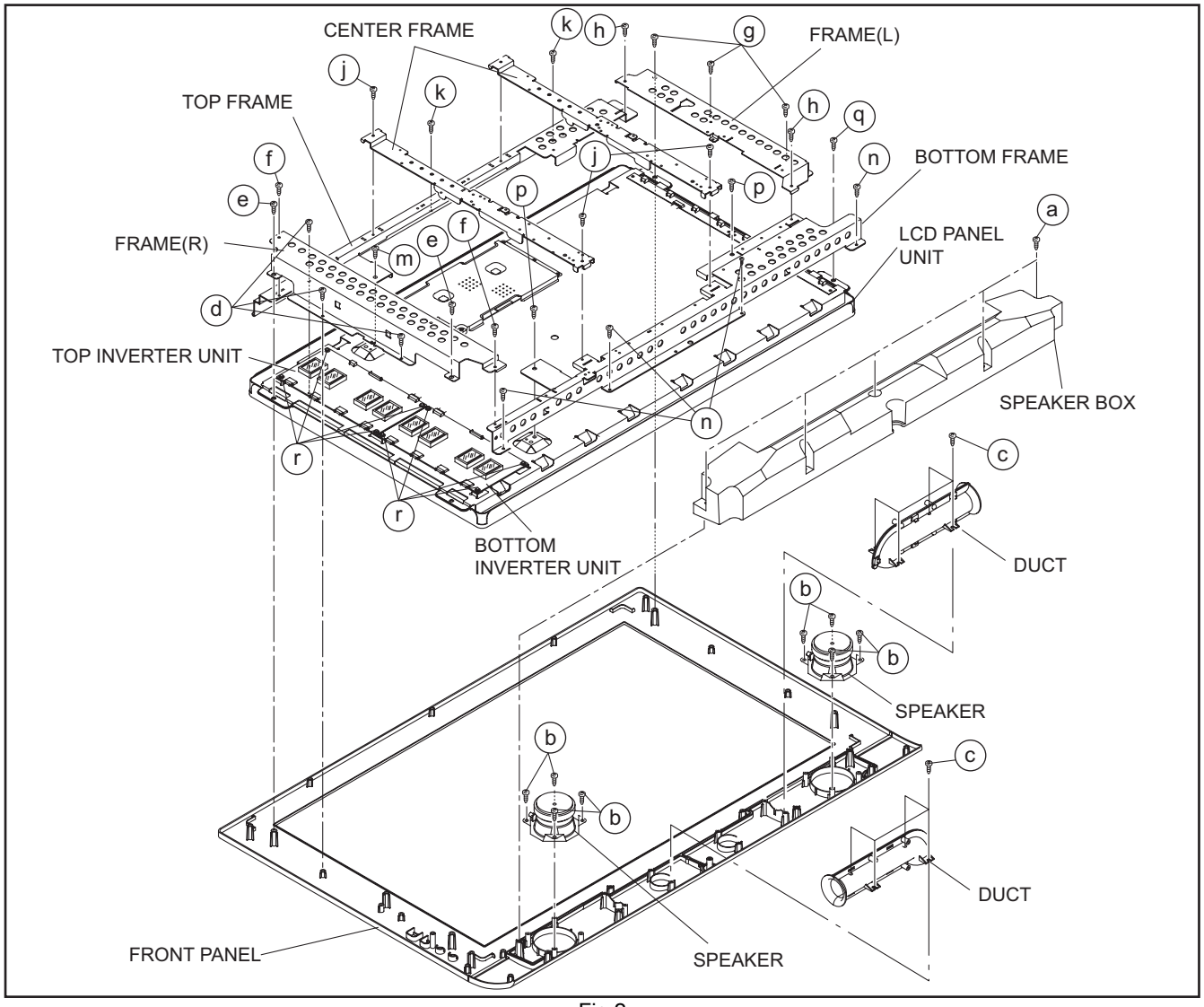


Fig.2

3.2 MEMORY IC REPLACEMENT

- This model uses the memory IC.
- This memory IC stores data for proper operation of the video and drive circuits.
- When replacing, be sure to use an IC containing this (initial value) data.

3.2.1 MEMORY IC REPLACEMENT PROCEDURE

1. Power off
Switch off the power and disconnect the power plug from the AC outlet.

2. Replace the memory IC
Be sure to use the memory IC written with the initial setting values.

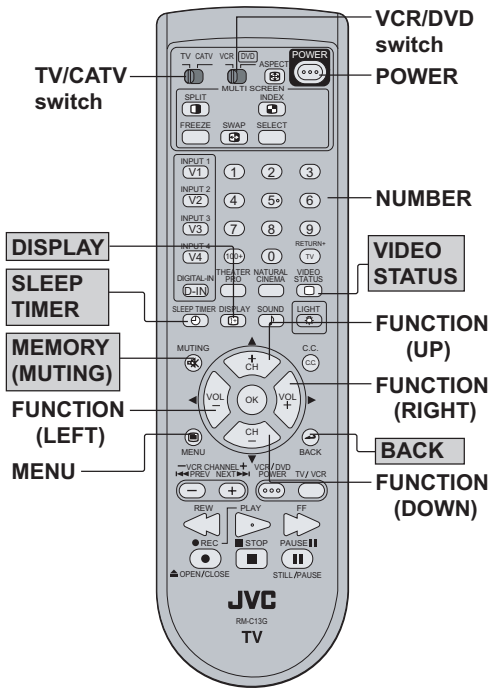
3. Power on
Connect the power plug to the AC outlet and switch on the power.

4. Receiving channel setting
Refer to the OPERATING INSTRUCTIONS and set the receive channels (Channels Preset) as described.

5. User setting
Check the user setting items according to the given in page later. Where these do not agree, refer to the OPERATING INSTRUCTIONS and set the items as described.

6. SERVICE MENU setting
Verify what to set in the SERVICE MENU, and set whatever is necessary (Fig.1). Refer to the SERVICE ADJUSTMENT for setting.

SERVICE MODE SELECT KEY



3.2.2 SERVICE MENU SETTING ITEMS

SERVICE MODE

1.PICTURE/SOUND	**7.PANEL**
2.YC SEP	**8.PP**
3.WHITE BALANCE	**9.IP**
4.MEMORY SETUP	**0.HDMI**
5.RF AFC	
6.DD/CM	

Fig.1

Setting items	Settings	Item No.
1. PICTURE/SOUND (sound and picture setting)		
Sound circuits (A)	Fixed	A01~A27
Video circuits (S)	Adjust	S01~S99
Deflection circuits (D)	Fixed	D01~D32
Factory setting items (F)	Adjust	F01~F59
2. YC SEP (3-dimensional YC separation setting)		
	Adjust	YCM001~YCM185
	Fixed	YCS001~YCS114
3. WHITE BALANCE [Can not adjust]		
4. MEMORY SETUP (Memory data edit) **[Do not adjust]**		
5. RF AFC: AFC setting (Automaticaly set) **[Do not adjust]**		
6. DD/CM (Panel image processing setting)		
	Adjust	DDT01~DDT34
	Fixed	CMT01~CMT57
7. PANEL (Panel power limit control) **[Do not adjust]**		
	Fixed	PDA001~PDA012
8. PP (Multi-screen processing setting)		
	Adjust	ADM001~ADM034
	Fixed	PPA001~PPA008
	Fixed	PPB001~PPB036
	Fixed	PPC001~PPC008
	Fixed	PPD001~PPD025
9. IP (DIST processing setting) **[Do not adjust]**		
	Fixed	IPA001~IPA120
	Fixed	IPB001~IPB079
	Fixed	IPC001~IPC044
	Fixed	IPD001~IPD026
	Fixed	IPE001~IPE015
0. HDMI (Digital input process setting) **[Do not adjust]**		
	Fixed	HDM001~HDM080
	Fixed	RHD001~RHD170

3.2.3 SETTINGS OF FACTORY SHIPMENT

3.2.3.1 BUTTON OPERATION

Setting item	Setting position
POWER	OFF
INPUT	TV
CHANNEL	CABLE-02
VOLUME	10

3.2.3.2 REMOTE CONTROL DIRECT OPERATION

Setting item		Setting position
INPUT		TV
CHANNEL		CABLE-02
VOLUME		10
MUTING		OFF
DISPLAY		OFF
SOUND	A.H.S	OFF
	BBE	ON
	A.H.B	ON
ASPECT	NTSC, 525i,525p	PANORAMA
	750p,1125i	FULL
OFF TIMER		OFF
VIDEO STATUS		DYNAMIC
NATURAL CINEMA		AUTO

3.2.3.3 REMOTE CONTROL MENU OPERATION

(1) PICTURE ADJUST

Customers can adjust the picture setting of menu screen as their own like but the picture standard value during factory shipment is as below.

■ NTSC MODE

Setting item	PICTURE	BRIGHT	COLOR	TINT	DETAIL	COLOR TEMPERATURE	DIG. NOISE CLEAR	COLOR MANAGEMENT
DINAMIC	00	+04	11	+02	+05	HIGH	OFF	VIVID
STANDARD	00	00	00	00	00	LOW	OFF	STD
GAME	00	+05	-05	00	0	HIGH	OFF	STD
THEATER	00	00	00	00	00	HIGH	OFF	STD

■ HD MODE

Setting item	PICTURE	BRIGHT	COLOR	TINT	DETAIL	COLOR TEMPERATURE	DIG. NOISE CLEAR	COLOR MANAGEMENT
DINAMIC	00	+03	+12	00	+03	HIGH	OFF	VIVID
STANDARD	00	00	00	00	00	LOW	OFF	STD
GAME	00	+05	-05	00	00	HIGH	OFF	STD
THEATER	00	00	00	00	00	LOW	OFF	STD

(2) SOUND ADJUST

Setting item	Setting position
TREBLE	00
BASS	00
BALANCE	00
MTS	STEREO

(3) CLOCK / TIMERS

Setting item	Setting position
SET CLOCK	---
ON / OFF TIMER	NO

(4) INITIAL SETUP

Setting item		Setting position	Setting item	Setting position
POSITION ADJUSTMENT		Center	NOISE MUTING	ON
VIDEO STATUS		DYNAMIC	FRONT PANEL LOCK	OFF
XDS ID		ON	AUTO SHUT OFF	OFF
POWER INDICATOR		HIGH	DIGITAL-IN	SIZE-1
VIDEO-1 MONITOR OUT		OFF	V-CHIP	OFF
LANGUAGE		ENG	AUTO DEMO	OFF
CLOSED CAPTION	CAPTION	CC1	IMAGE SHIFT	STD
	TEXT	T1	V1 SMART INPUT	OFF

3.3 REPLACEMENT OF CHIP COMPONENT

3.3.1 CAUTIONS

(1) Avoid heating for more than 3 seconds.
(2) Do not rub the electrodes and the resist parts of the pattern.
(3) When removing a chip part, melt the solder adequately.
(4) Do not reuse a chip part after removing it.

3.3.2 SOLDERING IRON

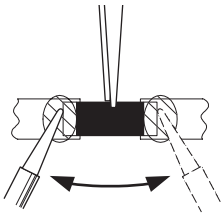
(1) Use a high insulation soldering iron with a thin pointed end of it.
(2) A 30w soldering iron is recommended for easily removing parts.

3.3.3 REPLACEMENT STEPS

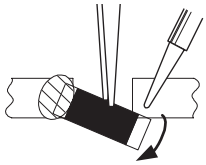
1. How to remove Chip parts

[Resistors, capacitors, etc.]

(1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.



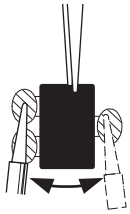
(2) Shift with the tweezers and remove the chip part.



[Transistors, diodes, variable resistors, etc.]

(1) Apply extra solder to each lead.

(2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.



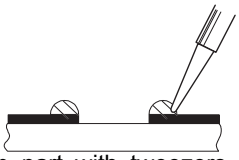
NOTE :

After removing the part, remove remaining solder from the pattern.

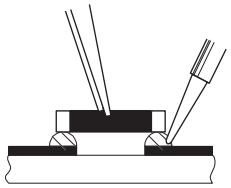
2. How to install Chip parts

[Resistors, capacitors, etc.]

(1) Apply solder to the pattern as indicated in the figure.

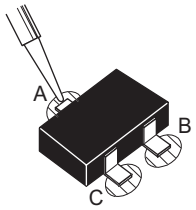


(2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

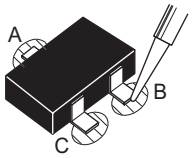


[Transistors, diodes, variable resistors, etc.]

(1) Apply solder to the pattern as indicated in the figure.
(2) Grasp the chip part with tweezers and place it on the solder.
(3) First solder lead **A** as indicated in the figure.



(4) Then solder leads **B** and **C**.



SECTION 4
ADJUSTMENT

4.1 ADJUSTMENT PREPARATION

(1) **There are 2 ways of adjusting this TV : One is with the REMOTE CONTROL UNIT and the other is the conventional method using adjustment parts and components.**

(2) **The adjustment using the REMOTE CONTROL UNIT is made on the basis of the initial setting values. The setting values which adjust the screen to the optimum condition can be different from the initial setting values.**

(3) Make sure that connection is correctly made AC to AC power source.

(4) Turn on the power of the TV and measuring instruments for warning up for at least 30 minutes before starting adjustments.

(5) If the receive or input signal is not specified, use the most appropriate signal for adjustment.

(6) Never touch the parts (such as variable resistors, transformers and condensers) not shown in the adjustment items of this service adjustment.

(7) Preparation for adjustment. Unless otherwise specified in the adjustment items, preset the following functions with the REMOTE CONTROL UNIT.

Setting item	Settings
VIDEO STATUS	STANDARD
BRIGHT / CONTRAST / COLOR / TINT	00
COLOR TEMPERATURE	LOW
DIG. NOISE CLEAR	OFF
COLOR MANEGMENT	STANDARD
NATURAL CINEMA	OFF
TREBLE / BASS / BALANCE	00
BBE	OFF
A.H.S	OFF
A.H.B	OFF
ASPECT	FULL

4.2 MEASURING INSTRUMENT AND FIXTURES

- DC voltmeter (or digital voltmeter)
- Oscilloscope
- Signal generator (Pattern generator)
  [NTSC / 525i / 525p / 750p / 1125i / DIGITAL]
- TV audio multiplex signal generator
- Remote control unit

4.3 ADJUSTMENT ITEMS

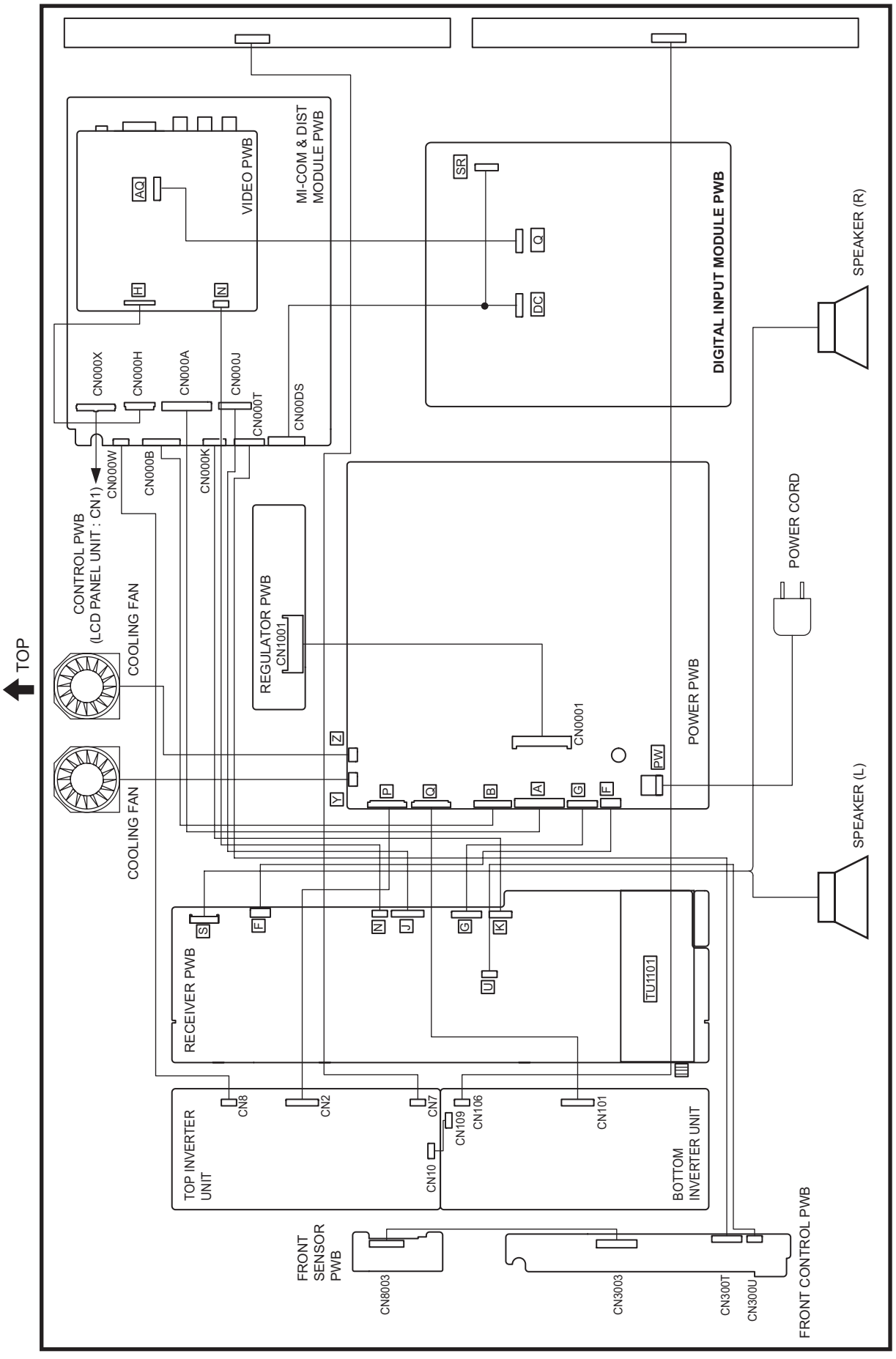
■ **VIDEO CIRCUIT**

- COMPONENT INPUT BLACK LEVEL adjustment
- COMPONENT INPUT A-D CONVERTER GAIN adjustment
- COMPONENT INPUT A-D CONVERTER OFFSET adjustment
- COMPOSITE INPUT BLACK LEVEL adjustment
- COMPOSITE INPUT A-D CONVERTER OFFSET adjustment
- SUB-SCREEN BLACK LEVEL adjustment
- SUB-SCREEN A-D CONVERTER GAIN adjustment
- WHITE BALANCE (HIGHLIGHT) adjustment

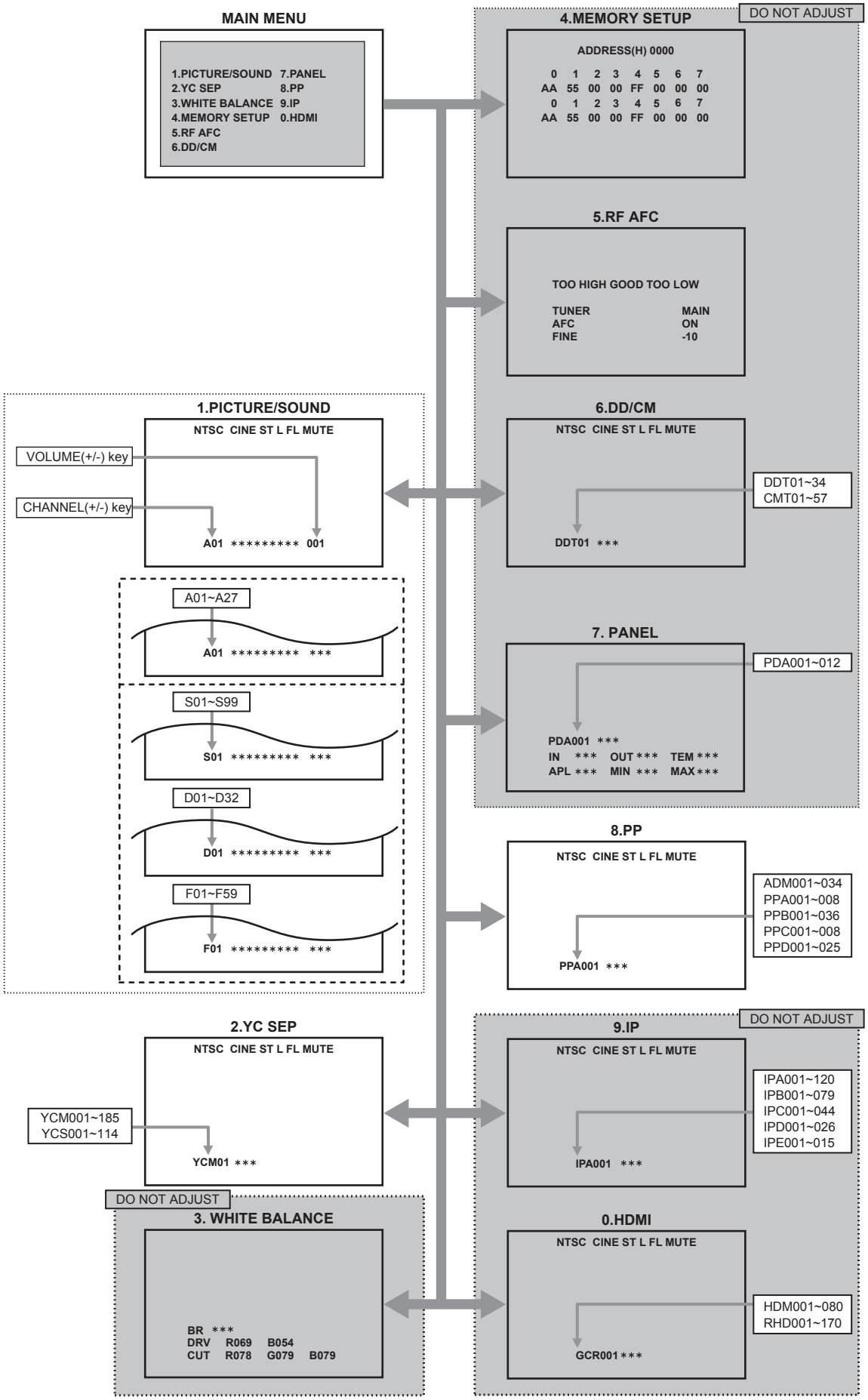
■ **MTS CIRCUIT**

- MTS INPUT LEVEL adjustment
- MTS SEPARATION adjustment

4.4 ADJUSTMENT LOCATION & WIRING



4.5 BASIC OPERATION OF SERVICE MODE



4.5.1 TOOL OF SERVICE MODE OPERATION

Operate the SERVICE MODE with the REMOTE CONTROL UNIT.

4.5.2 SERVICE MODE ITEMS

In general, basic setting (adjustments) items or verifications are performed in the SERVICE MODE.

1.PICTURE / SOUND	This sets the setting values of the VIDEO, AUDIO and DRIVE circuits.
2.YC SEP	This is used when the YC separation circuit is adjusted.
3.WHITE BALANCE	This sets the setting values of the WHITE BALANCE. **[Do not adjust]**
4.MEMORY SETUP	This sets the setting values of the MEMORY ADDRESS. **[Do not adjust]**
5.RF AFC	This is used when the IF VCO is adjusted. **[Do not adjust]**
6.DD/CM	This sets the setting values of the panel image processing. **[Do not adjust]**
7.PANEL	This sets the setting values of the panel power limit control. **[Do not adjust]**
8.PP	This sets the setting value of the output of MULTI-PICTURE circuit.
9.IP	This sets the setting value of the DIST circuit. **[Do not adjust]**
0.HDMI	This sets the setting value of the DIGITAL INPUT MODULE circuit. **[Do not adjust]**.

4.5.3 HOW TO ENTER THE SERVICE MODE

NOTE:

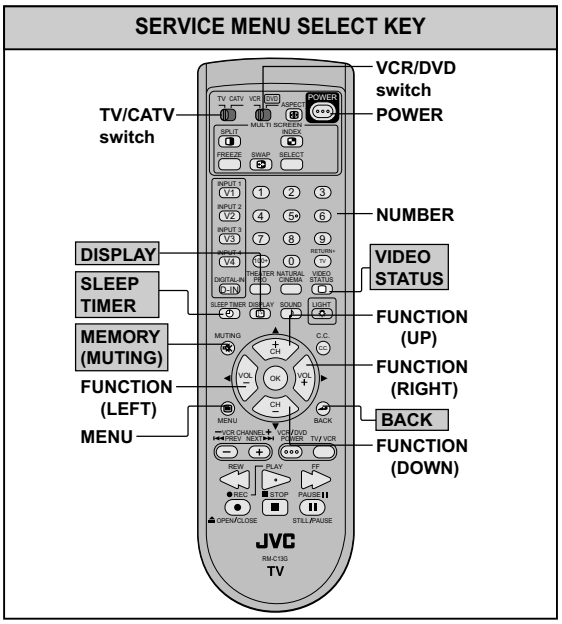
Ensure that the cursor (arrow) of the User Menu screen is pointing at picture control.

Before entering the SERVICE MODE, confirm that the setting of TV / CATV switch of the REMOTE CONTROL UNIT is at the "TV" side and the setting of VCR / DVD switch is at the "VCR" side. If the switches have not been properly set, you cannot enter the SERVICE MODE.

(1) Set to 0 minutes using the [SLEEP TIMER] key.
(2) Press the [VIDEO STATUS] key and [DISPLAY] key simultaneously, then enter the SERVICE MODE mode.
(3) When the Main Menu is displayed, press any key of the [0] to [9] key to enter the corresponding menu mode.
(4) Select the service item using the [CH +] / [CH -] key.
(5) Set the value using the [VOL +] / [VOL -] key.
(6) Press the [MUTING] key to save the value.

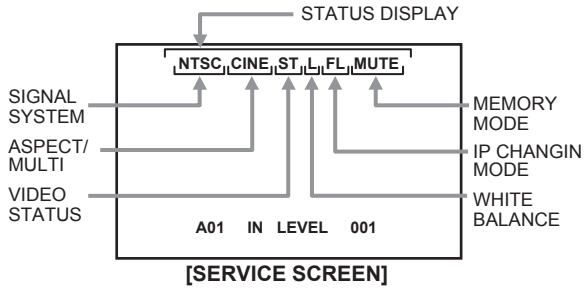
4.5.4 HOW TO EXIT THE SERVICE MODE

Press the [BACK] key to exit the Service mode.



4.5.5 DESCRIPTION OF STATUS DISPLAY

The status display on the upper part of the SERVICE MODE screen is common (to all models).



[SERVICE SCREEN]

(1) SIGNAL SYSTEM

NTSC : Composite, S-video (Y / C), RF, No signal.
DVD : 525i (component)
ED : 525p
HD : 1125i
750p : 750p
HED1 : DIGITAL 525p SIZE1
HED2 : DIGITAL 525p SIZE2
HHD : DIGITAL 1125i
H750 : DIGITAL 750p

(2) ASPECT / MULTI

SINGLE SCREEN

FULL : FULL
PANO : PANORAMA
CINE : CINEMA
REGU : REGULAR

MULTI SCREEN

M1 : SINGLE screen (for adjustment)
M2-1 : SPLIT
M12 : INDEX

(3) VIDEO STATUS

ST : STANDARD
DA : DYNAMIC
TH : THEATER
GA : GAME

(4) WHITE BALANCE

H : HIGH
L : LOW

(5) IP CHANGING MODE

FL : FRAME
L1 : LINE
23 : COMPULSORY NATURAL CINEMA IN

(6) MEMORY MODE

MUTE : Press [MUTING] key
DIR : Change data then memory at the same time.

4.5.6 SERVICE MODE SETTING

1. PICTURE/SOUND

AUDIO, VIDEO, DRIVE data adjustment.
(1) SETTING ITEM No.

A : AUDIO
S : SIGNAL
D : DRIVE
F : FACTORY SETTING

• Press [CH+] / [CH-] key

Item No. is up/down

• Press [SLEEP TIMER] key

Skip change

(2) SETTING ITEM NAME
Describe setting item name

(3) SETTING VALUE
Set the setting value.
• Press [VOL+] / [VOL-] key
Set the setting value.
• Press [MUTING] key
Memorize the data.

NOTE:
Setting for any of the following items that is not included in the “ADJUSTMENT PROCEDURE” section found in the later part of this manual will not be performed in servicing.

2. YC SEP (3D Y/C separation setting)
[Do not change settings of items that are not included in the "ADJUSTMENT PROCEDURE" section.]
Sets output data to the 3D Y/C separation circuit.
• Press [CH+] / [CH-] key
For scrolling up/down the item codes.
• Press [VOL+] / [VOL-] key
For scrolling up/down the data values.

3. WHITE BALANCE (White balance setting)
[Setting for this item is not required in servicing.]

4. MEMORY SETUP (Memory setting)
[Do not change settings]

5. RF AFC
Setting for this item is not required in servicing.

6. DD/CM
[Do not change settings]
Adjustment of color manegment and device driver

7. PANEL (Panel power limit control)
[Do not change settings]

8. PP (Multi-screen processing setting)
[Do not change settings of items that are not included in the "ADJUSTMENT PROCEDURE" section.]
Sets output data to the multi-screen processing circuit.
• Press [CH+] / [CH-] key
For scrolling up/down the item codes.
• Press [VOL+] / [VOL-] key
For scrolling up/down the data values.

9. IP (DIST setting)
[Do not change settings]
Sets output data to the DIST circuit.

0. HDMI
[Do not change settings]
Sets output data to the DIGITAL INPUT circuit

4.6 INITIAL SETTING VALUES IN THE SERVICE MODE

- Perform fine-tuning based on the "initial values" using the remote control when in the Service mode.
- The "initial values" serve only as an indication rough standard and therefore the values with which optimal display can be achieved may be different from the default values. But, don't change the values that are not written in "ADJUSTMENT PROCEDURE". They are fixed values.

NOTE:

As for the items whose settings are "Fixed" in Table 1 in "3.3 MEMORY IC REPLACEMENT", the following tables show initial values in NTSC signal input mode. As for the items whose conditions of SETTING VALUE are not written in the following tables, the following tables show initial values in NTSC signal input mode.

4.6.1 [1.PICTURE/SOUND]

Item No.	Item	Variable range	Setting value
A01	**(Not display)**	000~007	001
A02	**(Not display)**	000~007	001
A03	**(Not display)**	000~007	001
A04	**(Not display)**	000~007	000
A05	**(Not display)**	000~015	003
A06	**(Not display)**	000~015	004
A07	**(Not display)**	000~015	006
A08	**(Not display)**	000~015	003
A09	**(Not display)**	000~007	006
A10	**(Not display)**	000~007	004
A11	**(Not display)**	000~063	063
A12	**(Not display)**	000~063	063
A13	**(Not display)**	000~003	000
A14	**(Not display)**	000~007	000

Item No.	Item	Variable range	Setting value
A15	**(Not display)**	000~003	000
A16	**(Not display)**	000~003	000
A17	**(Not display)**	000~003	000
A18	IN LEVEL	000~015	006
A19	LOW SEP	000~063	041
A20	HI SEP	000~063	018
A21	**(Not display)**	000~001	000
A22	**(Not display)**	000~001	000
A23	**(Not display)**	000~001	000
A24	**(Not display)**	000~001	000
A25	**(Not display)**	000~001	000
A26	**(Not display)**	000~001	000
A27	**(Not display)**	000~001	000

Item No.	Item	Variable range	Setting value							
			NTSC		525i		525p		750p/1125i	
			STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S01	COLOR	000~255	135	110	145	114	143	114	155	146
S02	TINAD	-127~128	000	000	000	000	000	000	000	000
S03	OF COLOR	-127~128	000	000	000	000	000	000	000	000
S04	OF TINAD	-127~128	000	000	000	000	000	000	000	000
S05	BRIG	000~255	041	027	041	033	041	033	036	043
S06	CONT	000~255	128	146	128	149	128	149	128	128
S07	OF BRIG	-127~128	000	000	000	000	000	000	000	000
S08	OF CONT	-127~128	000	000	000	000	000	000	000	000
S09	BYGN	000~255	130	148	133	120	133	120	147	118
S10	OF BYGN	-127~128	000	000	000	000	000	000	000	000
S11	RYAXIS	-127~128	+006	000	+006	000	+006	000	000	000
S12	MIX	000~003	000	000	000	000	000	000	001	001

Item No.	Item	Variable range	Setting value							
			NTSC				525i			
			STANDARD		THEATER		STANDARD		THEATER	
			HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW
S13	RDRV	000~255	246	246	246	246	246	246	246	246
S14	RDRV	-127~128	-001	000	000	000	-001	000	000	-001
S15	GDRV	000~255	247	247	247	247	247	247	247	247
S16	GDRV	-127~128	-011	000	-008	-019	-011	000	-011	-020
S17	BDRV	000~255	255	255	225	225	255	255	255	255
S18	BDRV	-127~128	+019	000	-014	-030	+019	000	-016	-033

Item No.	Item	Variable range	Setting value							
			525p				750p/1125i			
			STANDARD		THEATER		STANDARD		THEATER	
			HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW
S13	RDRV	000~255	246	246	246	246	246	246	246	246
S14	RDRV	-127~128	-001	000	+001	-001	+001	000	000	000
S15	GDRV	000~255	247	247	247	247	255	255	255	255
S16	GDRV	-127~128	-011	000	-007	-020	-004	000	-006	-027
S17	BDRV	000~255	255	255	255	255	225	225	225	225
S18	BDRV	-127~128	+019	000	-016	-033	+032	000	+013	-038

Item No.	Item	Variable range	Setting value							
			NTSC		525i		525p		750p/1125i	
			STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S19	CUTR	000~255	128	128	128	128	128	128	128	128
S20	OF CUTR	-127~128	000	000	000	000	000	000	000	000
S21	CUTG	000~255	128	128	128	128	128	128	128	128
S22	OF CUTG	-127~128	000	000	000	000	000	000	000	000
S23	CUTB	000~255	128	128	128	128	128	128	128	128
S24	OF CUTB	-127~128	000	000	000	000	000	000	000	000
S25	CUTR	000~001	000	000	000	000	000	000	000	000
S26	CUTG	000~001	000	000	000	000	000	000	000	000
S27	CUTB	000~001	000	000	000	000	000	000	000	000
S28	BTHN	000~001	001	000	001	000	001	000	001	000
S29	BCALM	000~001	000	000	000	000	000	000	000	000
S30	BKAKOU	000~031	000	000	000	000	000	000	000	000
S31	BLIM	000~063	002	000	003	000	003	000	002	000
S32	BSTPO	000~063	018	063	020	063	020	063	018	063
S33	BKAKON	000~001	001	001	001	001	001	001	001	001
S34	WTHN	000~001	001	001	001	001	001	001	001	001
S35	WCALM	000~001	000	000	000	000	000	000	000	001
S36	WKAKOU	000~031	000	000	000	000	000	000	000	000
S37	WLIM	000~255	220	220	220	220	220	220	220	225
S38	WSTPO	000~063	050	050	050	050	050	050	050	050
S39	WPEAK	000~063	060	060	060	060	060	060	060	060
S40	WKAKON	000~001	001	001	001	001	001	001	001	001
S41	WGAINC	000~001	001	001	001	001	001	001	001	001

Item No.	Item	Variable range	Setting value							
			NTSC		525i		525p		750p/1125i	
			STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S42	GAINB	000~003	001	000	001	000	001	000	002	000
S43	SLIC	000~031	009	009	009	009	009	009	009	009
S44	APG	000~003	001	001	001	001	001	001	001	001
S45	GAINA	000~003	002	002	002	002	002	002	002	002
S46	**(Not display)**	000~015	015	015	015	015	015	015	015	015
S47	**(Not display)**	000~015	015	015	015	015	015	015	015	015
S48	DCTRAN	000~015	015	015	015	015	015	015	015	015

Item No.	Item	Variable range	Setting value	
			MULTI-SCREEN	ASPECT
			SPLIT	REGULAR
S49	HSTR	000~001	001	000
S50	HSTR	000~255	010	018
S51	HEND	000~001	000	000
S52	HEND	000~255	087	079
S53	VSTR	000~001	000	000
S54	VSTR	000~255	026	006
S55	VEND	000~001	000	000
S56	VEND	000~255	077	096
S57	BHSTR	000~255	000	000
S58	BHSTR	000~015	000	000
S59	BHEND	000~255	000	000
S60	BHEND	000~015	000	000

Data of the setting value is selected in the order of "SPLIT" and "REGULAR".

Item No.	Item	Variable range	Setting value					
			NTSC		525i/525p		750p/1125i	
			STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S61	PLPOL2	000~001	001	001	001	001	001	001
S62	PLEV2	000~127	016	015	016	015	016	016
S63	PLPOL1	000~001	000	000	000	000	000	000
S64	PLEV1	000~127	000	000	000	000	000	000

Item No.	Item	Variable range	Setting value							
			NTSC				525i/525p		750p/1125i	
			MULTI-SCREEN		ASPECT					
			SPLIT		REGULAR					
			STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER	STANDARD	THEATER
S65	MODC	000~003	002	002	002	002	002	002	002	002
S66	RMC	000~003	003	003	001	003	001	003	003	003
S67	RGA	000~003	003	003	003	003	002	003	003	003
S68	CLIP	000~015	000	000	000	000	000	000	000	000
S69	COR	000~063	019	019	019	019	019	019	019	019

Item No.	Item	Variable range	Setting value
S70	TINTON	001~001	001
S71	DRIVER	000~255	255
S72	DRIVEG	000~255	255
S73	DRIVEB	000~255	255
S74	EECONT	000~031	000
S75	EEBRT	000~031	009
S76	EETBRT	-127~128	000
S77	EETCONT	-127~128	000
S78	PICMAX	000~255	255
S79	PICMIN	000~255	000
S80	BRTMAX	000~255	255
S81	BRTMIN	000~255	000
S82	COLMAX	000~255	255
S83	COLMIN	000~255	000
S84	PWMDIM	000~255	143
S85	ADIM	000~255	255
S86	**(Not display)**	000~255	255
S87	**(Not display)**	000~007	003
S88	APLGAIN	000~007	000
S89	APLLIM	000~255	000
S90	ABSGAIN	000~127	000
S91	BLKGAIN	000~007	007
S92	BLKLIM	000~031	031
S93	WHTGAIN	000~007	007
S94	WHTLIM	000~031	031
S95	DCSTART	000~255	035
S96	DCGAIN	000~015	006
S97	DCLIM	000~063	050
S98	(Not display)	000~001	000
S99	(Not display)	000~003	000

Item No.	Item	Variable range	Setting value
D01	**(Not display)**	000~001	000
D02	**(Not display)**	000~001	000
D03	**(Not display)**	000~001	000
D04	**(Not display)**	000~001	000
D05	**(Not display)**	000~001	000
D06	**(Not display)**	000~001	000
D07	**(Not display)**	000~001	000
D08	**(Not display)**	000~001	000
D09	**(Not display)**	000~001	000
D10	**(Not display)**	000~001	000
D11	**(Not display)**	000~001	000
D12	**(Not display)**	000~001	000
D13	**(Not display)**	000~001	000

Item No.	Item	Variable range	Setting value
D14	**(Not display)**	000~001	000
D15	**(Not display)**	000~001	000
D16	**(Not display)**	000~001	000
D17	**(Not display)**	000~001	000
D18	**(Not display)**	000~001	000
D19	**(Not display)**	000~001	000
D20	**(Not display)**	000~001	000
D21	**(Not display)**	000~001	000
D22	**(Not display)**	000~001	000
D23	**(Not display)**	000~001	000
D24	**(Not display)**	000~001	000
D25	**(Not display)**	000~001	000
D26	**(Not display)**	000~001	000
D27	**(Not display)**	000~001	053
D28	**(Not display)**	000~001	000
D29	**(Not display)**	000~001	000
D30	**(Not display)**	000~001	000
D31	**(Not display)**	000~001	000
D32	**(Not display)**	000~001	000

Item No.	Item	Variable range	Setting value
F01	**(Not display)**	000~255	001
F02	**(Not display)**	000~255	000
F03	**(Not display)**	000~255	000
F04	**(Not display)**	000~255	032
F05	**(Not display)**	000~001	000
F06	**(Not display)**	000~001	136
F07	**(Not display)**	000~255	011
F08	**(Not display)**	000~255	007
F09	**(Not display)**	000~015	002
F10	**(Not display)**	000~015	004
F11	**(Not display)**	000~015	004
F12	**(Not display)**	000~015	005
F13	**(Not display)**	000~015	006
F14	**(Not display)**	000~015	007
F15	**(Not display)**	000~015	007
F16	**(Not display)**	000~127	070
F17	**(Not display)**	000~001	000
F18	**(Not display)**	000~001	000
F19	**(Not display)**	000~001	000
F20	**(Not display)**	000~255	005
F21	**(Not display)**	000~255	002
F22	**(Not display)**	000~001	000
F23	**(Not display)**	000~255	000
F24	**(Not display)**	000~255	098

Item No.	Item	Variable range	Setting value
F25	**(Not display)**	000~255	006
F26	**(Not display)**	000~255	040
F27	**(Not display)**	000~255	040
F28	**(Not display)**	000~001	000
F29	**(Not display)**	000~001	000
F30	**(Not display)**	000~001	000
F31	**(Not display)**	000~001	000
F32	**(Not display)**	000~001	000
F33	**(Not display)**	000~001	000
F34	**(Not display)**	000~001	000
F35	**(Not display)**	000~001	000
F36	**(Not display)**	000~001	000
F37	**(Not display)**	000~001	000
F38	**(Not display)**	000~001	000
F39	**(Not display)**	000~001	000
F40	**(Not display)**	000~001	000

Item No.	Item	Variable range	Setting value				
			NTSC	525i	525p	750p	1125i
F41	**(Not display)**	000~003	000	002	002	002	002
F42	**(Not display)**	000~001	000	000	000	000	000
F43	**(Not display)**	000~063	039	040	037	024	024

Item No.	Item	Variable range	Setting value
F44	**(Not display)**	000~001	000
F45	**(Not display)**	000~007	000
F46	OUT LV.	000~255	090
F47	LIMIT B	000~255	000
F48	LIMIT A	000~255	000
F49	**(Not display)**	000~255	123
F50	**(Not display)**	000~255	155
F51	**(Not display)**	000~255	123
F52	**(Not display)**	000~255	255
F53	**(Not display)**	000~001	001
F54	**(Not display)**	000~001	001
F55	**(Not display)**	000~001	030
F56	**(Not display)**	000~001	207
F57	**(Not display)**	000~001	128
F58	**(Not display)**	000~001	047
F59	**(Not display)**	000~001	001
F60	**(Not display)**	000~001	016
F61	**(Not display)**	000~001	000
F62	**(Not display)**	000~001	011
F63	ATT GAIN	000~001	001
F64	**(Not display)**	000~001	073
F65	**(Not display)**	000~001	001

Item No.	Item	Variable range	Setting value
F66	**(Not display)**	000~001	003
F67	**(Not display)**	000~001	201
F68	**(Not display)**	000~001	000
F69	**(Not display)**	000~001	000
F70	**(Not display)**	000~001	000

4.6.2 [2.YC SEP]

NOTE :

Initial setting value is reference value at following condition.

INPUT SIGNAL : NTSC
ASPECT : FULL
MULTI-SCREEN : SINGLE
VIDEO STATUS : STANDARD
COLOR TEMPERATURE : LOW

Item No.	Item	Variable range	Setting value
YCM001	**(Not display)**	000~001	000
YCM002	**(Not display)**	000~001	000
YCM003	**(Not display)**	000~001	000
YCM004	**(Not display)**	000~003	001
YCM005	**(Not display)**	000~255	239
YCM006	**(Not display)**	000~003	001
YCM007	**(Not display)**	000~255	239
YCM008	**(Not display)**	000~001	000
YCM009	**(Not display)**	000~003	000
YCM010	**(Not display)**	000~001	000
YCM011	**(Not display)**	000~001	000
YCM012	**(Not display)**	000~001	000
YCM013	**(Not display)**	000~001	000
YCM014	**(Not display)**	000~003	000
YCM015	**(Not display)**	000~001	000
YCM016	**(Not display)**	000~003	001
YCM017	**(Not display)**	000~001	001
YCM018	**(Not display)**	000~003	000
YCM019	**(Not display)**	000~001	000
YCM020	**(Not display)**	000~001	000
YCM021	**(Not display)**	000~003	002
YCM022	**(Not display)**	000~007	004
YCM023	**(Not display)**	000~001	001
YCM024	**(Not display)**	000~001	000
YCM025	**(Not display)**	000~015	005
YCM026	**(Not display)**	000~015	003
YCM027	**(Not display)**	000~003	000
YCM028	**(Not display)**	000~007	004
YCM029	**(Not display)**	000~007	006
YCM030	**(Not display)**	000~003	000
YCM031	**(Not display)**	000~001	000
YCM032	**(Not display)**	000~003	003
YCM033	**(Not display)**	000~001	001
YCM034	**(Not display)**	000~001	000
YCM035	**(Not display)**	000~255	096
YCM036	**(Not display)**	000~001	001
YCM037	**(Not display)**	000~003	001
YCM038	**(Not display)**	000~127	062
YCM039	**(Not display)**	000~127	073
YCM040	**(Not display)**	000~003	002
YCM041	**(Not display)**	000~063	016
YCM042	**(Not display)**	000~001	000
YCM043	**(Not display)**	000~001	000
YCM044	**(Not display)**	000~255	200
YCM045	**(Not display)**	000~001	000
YCM046	**(Not display)**	000~255	147
YCM047	**(Not display)**	000~001	001
YCM048	**(Not display)**	000~001	001
YCM049	**(Not display)**	000~001	001
YCM050	**(Not display)**	000~001	001
YCM051	**(Not display)**	000~001	001
YCM052	**(Not display)**	000~001	000
YCM053	**(Not display)**	000~001	000
YCM054	**(Not display)**	000~003	003
YCM055	**(Not display)**	000~003	003
YCM056	**(Not display)**	000~003	000
YCM057	**(Not display)**	000~001	000
YCM058	**(Not display)**	000~001	001
YCM059	**(Not display)**	000~001	001
YCM060	**(Not display)**	000~001	000
YCM061	**(Not display)**	000~001	001
YCM062	**(Not display)**	000~015	001
YCM063	**(Not display)**	000~015	005
YCM064	**(Not display)**	000~003	000
YCM065	**(Not display)**	000~063	060
YCM066	**(Not display)**	000~063	040
YCM067	**(Not display)**	000~063	025
YCM068	**(Not display)**	000~063	012
YCM069	**(Not display)**	000~063	036
YCM070	**(Not display)**	000~063	031
YCM071	**(Not display)**	000~127	031
YCM072	**(Not display)**	000~001	001
YCM073	**(Not display)**	000~001	001
YCM074	**(Not display)**	000~063	024
YCM075	**(Not display)**	000~001	000
YCM076	**(Not display)**	000~001	001
YCM077	**(Not display)**	000~063	010
YCM078	**(Not display)**	000~063	001
YCM079	**(Not display)**	000~255	000
YCM080	**(Not display)**	000~255	000
YCM081	**(Not display)**	000~255	000
YCM082	**(Not display)**	000~255	000

Item No.	Item	Variable range	Setting value
YCM083	**(Not display)**	000~001	001
YCM084	**(Not display)**	000~063	012
YCM085	**(Not display)**	000~001	000
YCM086	**(Not display)**	000~001	000
YCM087	**(Not display)**	000~063	028
YCM088	**(Not display)**	000~001	001
YCM089	**(Not display)**	000~031	000
YCM090	**(Not display)**	000~003	000
YCM091	**(Not display)**	000~015	000
YCM092	**(Not display)**	000~015	000
YCM093	**(Not display)**	000~015	003
YCM094	**(Not display)**	000~063	000
YCM095	**(Not display)**	000~255	050
YCM096	**(Not display)**	000~001	000
YCM097	**(Not display)**	000~063	032
YCM098	**(Not display)**	000~015	008
YCM099	**(Not display)**	000~015	005
YCM100	**(Not display)**	000~015	008
YCM101	**(Not display)**	000~015	005
YCM102	**(Not display)**	000~015	000
YCM103	**(Not display)**	000~015	002
YCM104	**(Not display)**	000~015	008
YCM105	**(Not display)**	000~015	006
YCM106	**(Not display)**	000~255	010
YCM107	**(Not display)**	000~255	032
YCM108	**(Not display)**	000~255	031
YCM109	**(Not display)**	000~255	064
YCM110	**(Not display)**	000~001	000
YCM111	**(Not display)**	000~001	001
YCM112	**(Not display)**	000~001	001
YCM113	**(Not display)**	000~001	001
YCM114	**(Not display)**	000~001	000
YCM115	**(Not display)**	000~001	001
YCM116	**(Not display)**	000~001	000
YCM117	**(Not display)**	000~001	000
YCM118	**(Not display)**	000~001	001
YCM119	**(Not display)**	000~001	000
YCM120	**(Not display)**	000~001	000
YCM121	**(Not display)**	000~003	003
YCM122	**(Not display)**	000~001	000
YCM123	**(Not display)**	000~255	000
YCM124	**(Not display)**	000~001	000
YCM125	**(Not display)**	000~255	002
YCM126	**(Not display)**	000~001	000
YCM127	**(Not display)**	000~001	001

Item No.	Item	Variable range	Setting value
YCM128	**(Not display)**	000~001	001
YCM129	**(Not display)**	000~001	001
YCM130	**(Not display)**	000~003	001
YCM131	**(Not display)**	000~255	040
YCM132	**(Not display)**	000~255	155
YCM133	**(Not display)**	000~255	055
YCM134	**(Not display)**	000~007	001
YCM135	**(Not display)**	000~255	136
YCM136	**(Not display)**	000~001	000
YCM137	**(Not display)**	000~001	001
YCM138	**(Not display)**	000~007	003
YCM139	**(Not display)**	000~255	141
YCM140	**(Not display)**	000~007	000
YCM141	**(Not display)**	000~255	014
YCM142	**(Not display)**	000~001	000
YCM143	**(Not display)**	000~007	005
YCM144	**(Not display)**	000~255	128
YCM145	**(Not display)**	000~001	000
YCM146	**(Not display)**	000~001	001
YCM147	**(Not display)**	000~001	001
YCM148	**(Not display)**	000~001	001
YCM149	**(Not display)**	000~001	000
YCM150	**(Not display)**	000~001	000
YCM151	**(Not display)**	000~255	136
YCM152	**(Not display)**	000~001	001
YCM153	**(Not display)**	000~001	001
YCM154	**(Not display)**	000~001	001
YCM155	**(Not display)**	000~003	000
YCM156	**(Not display)**	000~015	015
YCM157	**(Not display)**	000~015	004
YCM158	**(Not display)**	000~001	001
YCM159	**(Not display)**	000~127	007
YCM160	**(Not display)**	000~001	001
YCM161	**(Not display)**	000~031	000
YCM162	**(Not display)**	000~001	000
YCM163	**(Not display)**	000~015	003
YCM164	**(Not display)**	000~007	002
YCM165	**(Not display)**	000~031	016
YCM166	**(Not display)**	000~255	235
YCM167	**(Not display)**	000~003	000
YCM168	**(Not display)**	000~063	000
YCM169	**(Not display)**	000~015	003
YCM170	**(Not display)**	000~015	003
YCM171	**(Not display)**	000~007	000
YCM172	**(Not display)**	000~255	096

Item No.	Item	Variable range	Setting value
YCM173	**(Not display)**	000~007	003
YCM174	**(Not display)**	000~255	056
YCM175	**(Not display)**	000~001	000
YCM176	**(Not display)**	000~001	000
YCM177	**(Not display)**	000~255	022
YCM178	**(Not display)**	000~001	001
YCM179	**(Not display)**	000~001	000
YCM180	**(Not display)**	000~007	003
YCM181	**(Not display)**	000~003	001
YCM182	**(Not display)**	000~003	001
YCM183	**(Not display)**	000~003	001
YCM184	**(Not display)**	000~003	001
YCM185	**(Not display)**	000~255	000

Item No.	Item	Variable range	Setting value
YCS001	**(Not display)**	000~001	000
YCS002	**(Not display)**	000~001	000
YCS003	**(Not display)**	000~001	000
YCS004	**(Not display)**	000~003	001
YCS005	**(Not display)**	000~255	239
YCS006	**(Not display)**	000~003	001
YCS007	**(Not display)**	000~255	239
YCS008	**(Not display)**	000~001	000
YCS009	**(Not display)**	000~003	000
YCS010	**(Not display)**	000~001	000
YCS011	**(Not display)**	000~001	000
YCS012	**(Not display)**	000~001	000
YCS013	**(Not display)**	000~001	000
YCS014	**(Not display)**	000~003	000
YCS015	**(Not display)**	000~001	000
YCS016	**(Not display)**	000~003	001
YCS017	**(Not display)**	000~001	001
YCS018	**(Not display)**	000~003	000
YCS019	**(Not display)**	000~001	000
YCS020	**(Not display)**	000~001	000
YCS021	**(Not display)**	000~003	002
YCS022	**(Not display)**	000~007	004
YCS023	**(Not display)**	000~001	001
YCS024	**(Not display)**	000~001	000
YCS025	**(Not display)**	000~015	005
YCS026	**(Not display)**	000~015	003
YCS027	**(Not display)**	000~003	000
YCS028	**(Not display)**	000~007	003
YCS029	**(Not display)**	000~007	002
YCS030	**(Not display)**	000~003	003

Item No.	Item	Variable range	Setting value
YCS031	**(Not display)**	000~001	000
YCS032	**(Not display)**	000~003	003
YCS033	**(Not display)**	000~001	001
YCS034	**(Not display)**	000~001	000
YCS035	**(Not display)**	000~255	096
YCS036	**(Not display)**	000~001	001
YCS037	**(Not display)**	000~003	001
YCS038	**(Not display)**	000~127	062
YCS039	**(Not display)**	000~127	073
YCS040	**(Not display)**	000~003	002
YCS041	**(Not display)**	000~063	016
YCS042	**(Not display)**	000~001	000
YCS043	**(Not display)**	000~001	000
YCS044	**(Not display)**	000~255	160
YCS045	**(Not display)**	000~001	000
YCS046	**(Not display)**	000~255	111
YCS047	**(Not display)**	000~001	001
YCS048	**(Not display)**	000~031	000
YCS049	**(Not display)**	000~003	000
YCS050	**(Not display)**	000~015	000
YCS051	**(Not display)**	000~015	008
YCS052	**(Not display)**	000~015	001
YCS053	**(Not display)**	000~063	015
YCS054	**(Not display)**	000~255	020
YCS055	**(Not display)**	000~001	000
YCS056	**(Not display)**	000~063	025
YCS057	**(Not display)**	000~015	008
YCS058	**(Not display)**	000~015	005
YCS059	**(Not display)**	000~015	008
YCS060	**(Not display)**	000~015	005
YCS061	**(Not display)**	000~015	000
YCS062	**(Not display)**	000~015	002
YCS063	**(Not display)**	000~015	008
YCS064	**(Not display)**	000~015	006
YCS065	**(Not display)**	000~255	010
YCS066	**(Not display)**	000~255	032
YCS067	**(Not display)**	000~255	031
YCS068	**(Not display)**	000~255	089
YCS069	**(Not display)**	000~001	000
YCS070	**(Not display)**	000~001	001
YCS071	**(Not display)**	000~001	001
YCS072	**(Not display)**	000~001	001
YCS073	**(Not display)**	000~001	000
YCS074	**(Not display)**	000~001	001
YCS075	**(Not display)**	000~001	000

Item No.	Item	Variable range	Setting value
YCS076	**(Not display)**	000~001	000
YCS077	**(Not display)**	000~001	000
YCS078	**(Not display)**	000~001	000
YCS079	**(Not display)**	000~001	000
YCS080	**(Not display)**	000~003	003
YCS081	**(Not display)**	000~001	000
YCS082	**(Not display)**	000~255	000
YCS083	**(Not display)**	000~255	000
YCS084	**(Not display)**	000~007	000
YCS085	**(Not display)**	000~255	014
YCS086	**(Not display)**	000~001	000
YCS087	**(Not display)**	000~001	001
YCS088	**(Not display)**	000~001	000
YCS089	**(Not display)**	000~001	000
YCS090	**(Not display)**	000~255	136
YCS091	**(Not display)**	000~001	001
YCS092	**(Not display)**	000~001	001
YCS093	**(Not display)**	000~001	001
YCS094	**(Not display)**	000~003	000
YCS095	**(Not display)**	000~015	015
YCS096	**(Not display)**	000~015	002
YCS097	**(Not display)**	000~001	001
YCS098	**(Not display)**	000~127	007
YCS099	**(Not display)**	000~031	000
YCS100	**(Not display)**	000~001	000
YCS101	**(Not display)**	000~015	003
YCS102	**(Not display)**	000~007	002
YCS103	**(Not display)**	000~031	016
YCS104	**(Not display)**	000~255	235
YCS105	**(Not display)**	000~003	000
YCS106	**(Not display)**	000~063	000
YCS107	**(Not display)**	000~015	003
YCS108	**(Not display)**	000~015	003
YCS109	**(Not display)**	000~001	000
YCS110	**(Not display)**	000~003	001
YCS111	**(Not display)**	000~003	001
YCS112	**(Not display)**	000~003	001
YCS113	**(Not display)**	000~003	001
YCS114	**(Not display)**	000~255	000

4.6.3 [3.WHITE BALANCE]

NOTE :

Initial setting value is reference value at following condition.

INPUT SIGNAL : NTSC
ASPECT : FULL
MULTI-SCREEN : SINGLE
VIDEO STATUS : STANDARD
COLOR TEMPERATURE : LOW

Item No.	Item	Variable range	Setting value
BR	**(Not display)**	000~238	000
DRV R	**(Not display)**	000~255	000
DRV B	**(Not display)**	000~255	000
CUT R	**(Not display)**	000~255	000
CUT G	**(Not display)**	000~255	000
CUT B	**(Not display)**	000~255	000

4.6.4 [6.DD/CM]

Item No.	Item	Variable range	Setting value
DDT01	**(Not display)**	000~015	000
DDT02	**(Not display)**	000~255	000
DDT03	**(Not display)**	000~255	119
DDT04	**(Not display)**	000~255	246
DDT05	**(Not display)**	000~255	247
DDT06	**(Not display)**	000~255	255
DDT07	**(Not display)**	000~003	000
DDT08	**(Not display)**	000~255	032
DDT09	**(Not display)**	000~003	000
DDT10	**(Not display)**	000~255	000
DDT11	**(Not display)**	000~007	000
DDT12	**(Not display)**	000~255	115
DDT13	**(Not display)**	000~255	000
DDT14	**(Not display)**	000~003	002
DDT15	**(Not display)**	000~007	000
DDT16	**(Not display)**	000~255	186
DDT17	**(Not display)**	000~001	000
DDT18	**(Not display)**	000~001	000
DDT19	**(Not display)**	000~063	002
DDT20	**(Not display)**	000~015	014
DDT21	**(Not display)**	000~015	008
DDT22	**(Not display)**	000~015	000
DDT23	**(Not display)**	000~015	000
DDT24	**(Not display)**	000~001	000
DDT25	**(Not display)**	000~001	000
DDT26	**(Not display)**	000~001	000
DDT27	**(Not display)**	000~007	000
DDT28	**(Not display)**	000~255	122
DDT29	**(Not display)**	000~003	002

Item No.	Item	Variable range	Setting value
DDT30	**(Not display)**	000~001	000
DDT31	**(Not display)**	000~007	000
DDT32	**(Not display)**	000~255	000
DDT33	**(Not display)**	000~255	000
DDT34	**(Not display)**	000~255	033

Item No.	Item	Variable range	Setting value
CMT01	**(Not display)**	000~003	000
CMT02	**(Not display)**	000~0FF	112
CMT03	**(Not display)**	000~255	015
CMT04	**(Not display)**	000~255	020
CMT05	**(Not display)**	-032~+031	-005
CMT06	**(Not display)**	-128~+127	+015
CMT07	**(Not display)**	-128~+127	+010
CMT08	**(Not display)**	-128~+127	+003
CMT09	**(Not display)**	-128~+127	000
CMT10	**(Not display)**	000~003	000
CMT11	**(Not display)**	000~0FF	166
CMT12	**(Not display)**	000~255	020
CMT13	**(Not display)**	000~255	020
CMT14	**(Not display)**	-032~+031	-005
CMT15	**(Not display)**	-128~+127	+005
CMT16	**(Not display)**	-128~+127	+003
CMT17	**(Not display)**	-128~+127	000
CMT18	**(Not display)**	-128~+127	000
CMT19	**(Not display)**	000~003	000
CMT20	**(Not display)**	000~0FF	186
CMT21	**(Not display)**	000~255	030
CMT22	**(Not display)**	000~255	040
CMT23	**(Not display)**	-032~+031	-007
CMT24	**(Not display)**	-128~+127	+003
CMT25	**(Not display)**	-128~+127	+011
CMT26	**(Not display)**	-128~+127	+004
CMT27	**(Not display)**	-128~+127	+007
CMT28	**(Not display)**	000~003	001
CMT29	**(Not display)**	000~0FF	062
CMT30	**(Not display)**	000~255	040
CMT31	**(Not display)**	000~255	050
CMT32	**(Not display)**	-032~+031	000
CMT33	**(Not display)**	-128~+127	-001
CMT34	**(Not display)**	-128~+127	+015
CMT35	**(Not display)**	-128~+127	-003
CMT36	**(Not display)**	-128~+127	+015
CMT37	**(Not display)**	000~255	064
CMT38	**(Not display)**	000~255	068

Item No.	Item	Variable range	Setting value
CMT39	**(Not display)**	000~255	078
CMT40	**(Not display)**	-128~+127	000
CMT41	**(Not display)**	-128~+127	000
CMT42	**(Not display)**	000~001	000
CMT43	**(Not display)**	000~0FF	080
CMT44	**(Not display)**	000~001	001
CMT45	**(Not display)**	000~0FF	080
CMT46	**(Not display)**	000~001	000
CMT47	**(Not display)**	000~0FF	080
CMT48	**(Not display)**	000~001	000
CMT49	**(Not display)**	000~001	001
CMT50	**(Not display)**	-016~+015	+028
CMT51	**(Not display)**	-016~+015	+028
CMT52	**(Not display)**	000~001	000
CMT53	**(Not display)**	000~001	000
CMT54	**(Not display)**	000~003	000
CMT55	**(Not display)**	000~001	000
CMT56	**(Not display)**	000~001	001
CMT57	**(Not display)**	000~001	000

4.6.5 [7.PANEL] (*All the values are fixed values.)

Item No.	Item	Variable range	Setting value
PDA001	**(Not display)**	000~255	000
PDA002	**(Not display)**	000~255	000
PDA003	**(Not display)**	000~255	000
PDA004	**(Not display)**	000~255	000
PDA005	**(Not display)**	000~001	000
PDA006	**(Not display)**	000~001	000
PDA007	**(Not display)**	000~255	000
PDA008	**(Not display)**	000~255	000
PDA009	**(Not display)**	000~255	000
PDA010	**(Not display)**	000~255	000
PDA011	**(Not display)**	000~255	000
PDA012	**(Not display)**	000~127	000

4.6.6 [8.PP]

NOTE :

Initial setting value is reference value at following condition.

INPUT SIGNAL : NTSC
ASPECT : FULL
MULTI-SCREEN : SINGLE
VIDEO STATUS : STANDARD
COLOR TEMPERATURE : LOW

Item No.	Item	Variable range	Setting value
ADM001	**(Not display)**	000~0FF	0D6
ADM002	**(Not display)**	000~00F	007

Item No.	Item	Variable range	Setting value
ADM003	**(Not display)**	000~003	001
ADM004	**(Not display)**	000~007	005
ADM005	**(Not display)**	000~01F	016
ADM006	**(Not display)**	000~0FF	036
ADM007	**(Not display)**	000~0FF	08A
ADM008	**(Not display)**	000~0FF	020
ADM009	**(Not display)**	000~0FF	0FF
ADM010	**(Not display)**	000~0FF	0B9
ADM011	**(Not display)**	000~0FF	0FF
ADM012	**(Not display)**	000~07F	035
ADM013	**(Not display)**	000~07F	02B
ADM014	**(Not display)**	000~07F	03B
ADM015	**(Not display)**	000~001	001
ADM016	**(Not display)**	000~001	001
ADM017	**(Not display)**	000~001	000
ADM018	**(Not display)**	000~001	001
ADM019	**(Not display)**	000~001	000
ADM020	**(Not display)**	000~001	000
ADM021	**(Not display)**	000~001	001
ADM022	**(Not display)**	000~001	000
ADM023	**(Not display)**	000~001	000
ADM024	**(Not display)**	000~001	001
ADM025	**(Not display)**	000~001	000
ADM026	**(Not display)**	000~001	001
ADM027	**(Not display)**	000~001	001
ADM028	**(Not display)**	000~001	001
ADM029	**(Not display)**	000~001	001
ADM030	**(Not display)**	000~01F	003
ADM031	**(Not display)**	000~001	001
ADM032	**(Not display)**	000~001	000
ADM033	**(Not display)**	000~001	001
ADM034	**(Not display)**	000~0FF	032

Item No.	Item	Variable range	Setting value
PPA001	**(Not display)**	000~255	040
PPA002	**(Not display)**	000~255	000
PPA003	**(Not display)**	000~255	05A
PPA004	**(Not display)**	000~255	000
PPA005	**(Not display)**	000~255	000
PPA006	**(Not display)**	000~255	001
PPA007	**(Not display)**	000~255	05A
PPA008	**(Not display)**	000~255	023

Item No.	Item	Variable range	Setting value
PPB001	**(Not display)**	000~031	000
PPB002	**(Not display)**	000~255	000
PPB003	**(Not display)**	000~255	000
PPB004	**(Not display)**	000~031	000
PPB005	**(Not display)**	000~255	014
PPB006	**(Not display)**	000~255	000
PPB007	**(Not display)**	000~031	000
PPB008	**(Not display)**	000~255	028
PPB009	**(Not display)**	000~255	000
PPB010	**(Not display)**	000~031	000
PPB011	**(Not display)**	000~255	000
PPB012	**(Not display)**	000~255	000
PPB013	**(Not display)**	000~031	000
PPB014	**(Not display)**	000~255	000
PPB015	**(Not display)**	000~255	000
PPB016	**(Not display)**	000~031	000
PPB017	**(Not display)**	000~255	000
PPB018	**(Not display)**	000~255	000
PPB019	**(Not display)**	000~031	000
PPB020	**(Not display)**	000~255	000
PPB021	**(Not display)**	000~255	000
PPB022	**(Not display)**	000~031	000
PPB023	**(Not display)**	000~255	000
PPB024	**(Not display)**	000~255	000
PPB025	**(Not display)**	000~031	000
PPB026	**(Not display)**	000~255	000
PPB027	**(Not display)**	000~255	000
PPB028	**(Not display)**	000~031	000
PPB029	**(Not display)**	000~255	000
PPB030	**(Not display)**	000~255	000
PPB031	**(Not display)**	000~031	000
PPB032	**(Not display)**	000~255	000
PPB033	**(Not display)**	000~255	000
PPB034	**(Not display)**	000~031	000
PPB035	**(Not display)**	000~255	000
PPB036	**(Not display)**	000~255	000

Item No.	Item	Variable range	Setting value
PPC001	**(Not display)**	000~255	000
PPC002	**(Not display)**	000~255	00E
PPC003	**(Not display)**	000~255	002
PPC004	**(Not display)**	000~001	000
PPC005	**(Not display)**	000~001	000
PPC006	**(Not display)**	000~001	000
PPC007	**(Not display)**	000~001	000
PPC008	**(Not display)**	000~001	000

Item No.	Item	Variable range	Setting value
PPC009	**(Not display)**	000~001	01C
PPC010	**(Not display)**	000~001	004

Item No.	Item	Variable range	Setting value
PPD001	**(Not display)**	000~255	008
PPD002	**(Not display)**	000~255	000
PPD003	**(Not display)**	000~255	019
PPD004	**(Not display)**	000~255	001
PPD005	**(Not display)**	000~255	09A
PPD006	**(Not display)**	000~255	000
PPD007	**(Not display)**	000~255	019
PPD008	**(Not display)**	000~255	001
PPD009	**(Not display)**	000~255	0B3
PPD010	**(Not display)**	000~255	000
PPD011	**(Not display)**	000~255	024
PPD012	**(Not display)**	000~255	001
PPD013	**(Not display)**	000~255	039
PPD014	**(Not display)**	000~255	000
PPD015	**(Not display)**	000~255	096
PPD016	**(Not display)**	000~255	001
PPD017	**(Not display)**	000~255	086
PPD018	**(Not display)**	000~255	000
PPD019	**(Not display)**	000~255	024
PPD020	**(Not display)**	000~255	001
PPD021	**(Not display)**	000~255	050
PPD022	**(Not display)**	000~255	000
PPD023	**(Not display)**	000~255	0AA
PPD024	**(Not display)**	000~255	001
PPD025	**(Not display)**	000~255	072

4.6.7 [9.IP] (*All the values are fixed values.)

NOTE :

Initial setting value is reference value at following condition.

INPUT SIGNAL : NTSC
ASPECT : FULL
MULTI-SCREEN : SINGLE
VIDEO STATUS : STANDARD
COLOR TEMPERATURE : LOW

Item No.	Item	Variable range	Setting value
IPA001	**(Not display)**	000~001	001
IPA002	**(Not display)**	000~063	01C
IPA003	**(Not display)**	000~063	018
IPA004	**(Not display)**	000~063	01C
IPA005	**(Not display)**	000~003	000
IPA006	**(Not display)**	000~003	000
IPA007	**(Not display)**	000~015	00F
IPA008	**(Not display)**	000~063	002
IPA009	**(Not display)**	000~063	003
IPA010	**(Not display)**	000~063	01B
IPA011	**(Not display)**	000~063	019
IPA012	**(Not display)**	000~063	029F
IPA013	**(Not display)**	000~003	000
IPA014	**(Not display)**	000~003	000
IPA015	**(Not display)**	000~063	00F
IPA016	**(Not display)**	000~063	003
IPA017	**(Not display)**	000~001	001
IPA018	**(Not display)**	000~063	02C
IPA019	**(Not display)**	000~001	001
IPA020	**(Not display)**	000~001	001
IPA021	**(Not display)**	000~063	015
IPA022	**(Not display)**	000~003	000
IPA023	**(Not display)**	000~063	004
IPA024	**(Not display)**	000~001	001
IPA025	**(Not display)**	000~001	001
IPA026	**(Not display)**	000~063	015
IPA027	**(Not display)**	000~003	000
IPA028	**(Not display)**	000~063	005
IPA029	**(Not display)**	000~063	000
IPA030	**(Not display)**	000~015	000
IPA031	**(Not display)**	000~007	000
IPA032	**(Not display)**	000~063	000
IPA033	**(Not display)**	000~001	000
IPA034	**(Not display)**	000~063	000
IPA035	**(Not display)**	000~001	001
IPA036	**(Not display)**	000~063	00D
IPA037	**(Not display)**	000~063	00D
IPA038	**(Not display)**	000~063	010
IPA039	**(Not display)**	000~003	001
IPA040	**(Not display)**	000~003	001
IPA041	**(Not display)**	000~015	00F
IPA042	**(Not display)**	000~063	005
IPA043	**(Not display)**	000~063	005
IPA044	**(Not display)**	000~063	00C
IPA045	**(Not display)**	000~063	00C
IPA046	**(Not display)**	000~063	00F
IPA047	**(Not display)**	000~003	001
IPA048	**(Not display)**	000~003	001
IPA049	**(Not display)**	000~015	00F
IPA050	**(Not display)**	000~063	008
IPA051	**(Not display)**	000~001	001
IPA052	**(Not display)**	000~063	008

Item No.	Item	Variable range	Setting value
IPA053	**(Not display)**	000~001	001
IPA054	**(Not display)**	000~001	001
IPA055	**(Not display)**	000~063	015
IPA056	**(Not display)**	000~003	000
IPA057	**(Not display)**	000~063	00A
IPA058	**(Not display)**	000~001	001
IPA059	**(Not display)**	000~001	001
IPA060	**(Not display)**	000~063	015
IPA061	**(Not display)**	000~003	000
IPA062	**(Not display)**	000~063	00A
IPA063	**(Not display)**	000~063	020
IPA064	**(Not display)**	000~015	008
IPA065	**(Not display)**	000~007	001
IPA066	**(Not display)**	000~063	020
IPA067	**(Not display)**	000~001	001
IPA068	**(Not display)**	000~063	020
IPA069	**(Not display)**	000~003	000
IPA070	**(Not display)**	000~255	000
IPA071	**(Not display)**	000~015	005
IPA072	**(Not display)**	000~255	0DC
IPA073	**(Not display)**	000~001	000
IPA074	**(Not display)**	000~001	000
IPA075	**(Not display)**	000~255	016
IPA076	**(Not display)**	000~001	000
IPA077	**(Not display)**	000~001	000
IPA078	**(Not display)**	000~001	000
IPA079	**(Not display)**	000~001	000
IPA080	**(Not display)**	000~001	000
IPA081	**(Not display)**	000~001	000
IPA082	**(Not display)**	000~001	000
IPA083	**(Not display)**	000~001	000
IPA084	**(Not display)**	000~001	000
IPA085	**(Not display)**	000~001	000
IPA086	**(Not display)**	000~001	000
IPA087	**(Not display)**	000~001	000
IPA088	**(Not display)**	000~001	000
IPA089	**(Not display)**	000~001	000
IPA090	**(Not display)**	000~001	000
IPA091	**(Not display)**	000~015	000
IPA092	**(Not display)**	000~255	000
IPA093	**(Not display)**	000~015	003
IPA094	**(Not display)**	000~255	0FF
IPA095	**(Not display)**	000~015	000
IPA096	**(Not display)**	000~255	000
IPA097	**(Not display)**	000~015	005

Item No.	Item	Variable range	Setting value
IPA098	**(Not display)**	000~255	0DB
IPA099	**(Not display)**	000~015	000
IPA100	**(Not display)**	000~255	000
IPA101	**(Not display)**	000~015	000
IPA102	**(Not display)**	000~255	000
IPA103	**(Not display)**	000~015	000
IPA104	**(Not display)**	000~255	000
IPA105	**(Not display)**	000~015	000
IPA106	**(Not display)**	000~255	000
IPA107	**(Not display)**	000~015	000
IPA108	**(Not display)**	000~255	080
IPA109	**(Not display)**	000~015	000
IPA110	**(Not display)**	000~255	040
IPA111	**(Not display)**	000~015	005
IPA112	**(Not display)**	000~255	040
IPA113	**(Not display)**	000~015	000
IPA114	**(Not display)**	000~255	0C0
IPA115	**(Not display)**	000~015	002
IPA116	**(Not display)**	000~255	0EF
IPA117	**(Not display)**	000~001	000
IPA118	**(Not display)**	000~001	000
IPA119	**(Not display)**	000~001	000
IPA120	**(Not display)**	000~001	000

Item No.	Item	Variable range	Setting value
IPB001	**(Not display)**	000~255	001
IPB002	**(Not display)**	000~255	00F
IPB003	**(Not display)**	000~015	000
IPB004	**(Not display)**	000~255	0B7
IPB005	**(Not display)**	000~015	002
IPB006	**(Not display)**	000~255	0C9
IPB007	**(Not display)**	000~015	002
IPB008	**(Not display)**	000~255	038
IPB009	**(Not display)**	000~015	001
IPB010	**(Not display)**	000~255	0AB
IPB011	**(Not display)**	000~015	001
IPB012	**(Not display)**	000~255	01C
IPB013	**(Not display)**	000~015	000
IPB014	**(Not display)**	000~255	08E
IPB015	**(Not display)**	000~015	000
IPB016	**(Not display)**	000~255	01D
IPB017	**(Not display)**	000~015	000
IPB018	**(Not display)**	000~255	01E
IPB019	**(Not display)**	000~015	000
IPB020	**(Not display)**	000~255	023

Item No.	Item	Variable range	Setting value
IPB021	**(Not display)**	000~015	000
IPB022	**(Not display)**	000~255	03E
IPB023	**(Not display)**	000~015	001
IPB024	**(Not display)**	000~255	07B
IPB025	**(Not display)**	000~015	000
IPB026	**(Not display)**	000~255	000
IPB027	**(Not display)**	000~015	004
IPB028	**(Not display)**	000~255	037
IPB029	**(Not display)**	000~015	000
IPB030	**(Not display)**	000~255	04C
IPB031	**(Not display)**	000~015	000
IPB032	**(Not display)**	000~255	000
IPB033	**(Not display)**	000~015	000
IPB034	**(Not display)**	000~255	000
IPB035	**(Not display)**	000~015	001
IPB036	**(Not display)**	000~255	02E
IPB037	**(Not display)**	000~001	000
IPB038	**(Not display)**	000~007	000
IPB039	**(Not display)**	000~015	000
IPB040	**(Not display)**	000~015	00F
IPB041	**(Not display)**	000~015	006
IPB042	**(Not display)**	000~255	000
IPB043	**(Not display)**	000~015	002
IPB044	**(Not display)**	000~255	038
IPB045	**(Not display)**	000~015	003
IPB046	**(Not display)**	000~255	000
IPB047	**(Not display)**	000~015	000
IPB048	**(Not display)**	000~255	0CA
IPB049	**(Not display)**	000~015	000
IPB050	**(Not display)**	000~255	0D0
IPB051	**(Not display)**	000~015	000
IPB052	**(Not display)**	000~255	000
IPB053	**(Not display)**	000~015	000
IPB054	**(Not display)**	000~255	000
IPB055	**(Not display)**	000~015	000
IPB056	**(Not display)**	000~255	0C4
IPB057	**(Not display)**	000~015	006
IPB058	**(Not display)**	000~255	040
IPB059	**(Not display)**	000~007	001
IPB060	**(Not display)**	000~003	000
IPB061	**(Not display)**	000~003	000
IPB062	**(Not display)**	000~001	000
IPB063	**(Not display)**	000~255	000
IPB064	**(Not display)**	000~255	080
IPB065	**(Not display)**	000~255	080

Item No.	Item	Variable range	Setting value
IPB066	**(Not display)**	000~001	000
IPB067	**(Not display)**	000~015	000
IPB068	**(Not display)**	000~015	000
IPB069	**(Not display)**	000~015	000
IPB070	**(Not display)**	000~015	00F
IPB071	**(Not display)**	000~255	000
IPB072	**(Not display)**	000~015	000
IPB073	**(Not display)**	000~255	000
IPB074	**(Not display)**	000~001	000
IPB075	**(Not display)**	000~001	000
IPB076	**(Not display)**	000~001	000
IPB077	**(Not display)**	000~015	009
IPB078	**(Not display)**	000~001	001
IPB079	**(Not display)**	000~255	042

Item No.	Item	Variable range	Setting value
IPC001	**(Not display)**	000~003	002
IPC002	**(Not display)**	000~255	0EA
IPC003	**(Not display)**	000~001	000
IPC004	**(Not display)**	000~001	000
IPC005	**(Not display)**	000~015	000
IPC006	**(Not display)**	000~255	000
IPC007	**(Not display)**	000~015	005
IPC008	**(Not display)**	000~255	0DB
IPC009	**(Not display)**	000~015	006
IPC010	**(Not display)**	000~255	071
IPC011	**(Not display)**	000~015	000
IPC012	**(Not display)**	000~255	000
IPC013	**(Not display)**	000~003	001
IPC014	**(Not display)**	000~001	000
IPC015	**(Not display)**	000~001	001
IPC016	**(Not display)**	000~255	0EE
IPC017	**(Not display)**	000~001	000
IPC018	**(Not display)**	000~127	000
IPC019	**(Not display)**	000~001	000
IPC020	**(Not display)**	000~127	000
IPC021	**(Not display)**	000~015	001
IPC022	**(Not display)**	000~255	03F
IPC023	**(Not display)**	000~003	002
IPC024	**(Not display)**	000~255	01E
IPC025	**(Not display)**	000~001	000
IPC026	**(Not display)**	000~127	00F
IPC027	**(Not display)**	000~001	000
IPC028	**(Not display)**	000~127	000
IPC029	**(Not display)**	000~001	001

Item No.	Item	Variable range	Setting value
IPC030	**(Not display)**	000~001	000
IPC031	**(Not display)**	000~001	000
IPC032	**(Not display)**	000~001	000
IPC033	**(Not display)**	000~001	001
IPC034	**(Not display)**	000~001	001
IPC035	**(Not display)**	000~001	000
IPC036	**(Not display)**	000~001	000
IPC037	**(Not display)**	000~001	000
IPC038	**(Not display)**	000~001	000
IPC039	**(Not display)**	000~001	000
IPC040	**(Not display)**	000~001	000
IPC041	**(Not display)**	000~001	000
IPC042	**(Not display)**	000~001	000
IPC043	**(Not display)**	000~001	000
IPC044	**(Not display)**	000~001	000

Item No.	Item	Variable range	Setting value
IPD001	**(Not display)**	000~255	040
IPD002	**(Not display)**	000~255	000
IPD003	**(Not display)**	000~255	000
IPD004	**(Not display)**	000~007	000
IPD005	**(Not display)**	000~255	01C
IPD006	**(Not display)**	000~007	000
IPD007	**(Not display)**	000~255	0E1
IPD008	**(Not display)**	000~001	000
IPD009	**(Not display)**	000~015	000
IPD010	**(Not display)**	000~255	012
IPD011	**(Not display)**	000~015	004
IPD012	**(Not display)**	000~255	0BB
IPD013	**(Not display)**	000~007	000
IPD014	**(Not display)**	000~007	000
IPD015	**(Not display)**	000~001	000
IPD016	**(Not display)**	000~001	000
IPD017	**(Not display)**	000~255	000
IPD018	**(Not display)**	000~007	000
IPD019	**(Not display)**	000~255	01D
IPD020	**(Not display)**	000~007	002
IPD021	**(Not display)**	000~255	0E6
IPD022	**(Not display)**	000~001	001
IPD023	**(Not display)**	000~015	001
IPD024	**(Not display)**	000~255	00E
IPD025	**(Not display)**	000~015	004
IPD026	**(Not display)**	000~255	0C0

Item No.	Item	Variable range	Setting value
IPE001	**(Not display)**	000~255	001
IPE002	**(Not display)**	000~255	002
IPE003	**(Not display)**	000~255	001
IPE004	**(Not display)**	000~255	002
IPE005	**(Not display)**	000~255	001
IPE006	**(Not display)**	000~255	002
IPE007	**(Not display)**	000~255	001
IPE008	**(Not display)**	000~255	002
IPE009	**(Not display)**	-128~+127	+005
IPE010	**(Not display)**	-128~+127	+006
IPE011	**(Not display)**	-128~+127	+005
IPE012	**(Not display)**	-128~+127	+005
IPE013	**(Not display)**	-128~+127	-005
IPE014	**(Not display)**	-128~+127	+005
IPE015	**(Not display)**	000~015	001

4.6.8 [0.HDMI] *All the values are fixed values.

Item No.	Item	Variable range	Setting value
HDM001	**(Not display)**	000~001	000
HDM002	**(Not display)**	000~001	000
HDM003	**(Not display)**	000~001	000
HDM004	**(Not display)**	000~001	000
HDM005	**(Not display)**	000~001	000
HDM006	**(Not display)**	000~003	000
HDM007	**(Not display)**	000~001	000
HDM008	**(Not display)**	000~001	000
HDM009	**(Not display)**	000~001	000
HDM010	**(Not display)**	000~001	000
HDM011	**(Not display)**	000~001	000
HDM012	**(Not display)**	000~001	000
HDM013	**(Not display)**	000~001	000
HDM014	**(Not display)**	000~001	000
HDM015	**(Not display)**	000~001	000
HDM016	**(Not display)**	000~255	000
HDM017	**(Not display)**	000~255	000
HDM018	**(Not display)**	000~255	000
HDM019	**(Not display)**	000~001	000
HDM020	**(Not display)**	000~255	000
HDM021	**(Not display)**	000~007	000
HDM022	**(Not display)**	000~063	000
HDM023	**(Not display)**	000~063	000
HDM024	**(Not display)**	000~063	000
HDM025	**(Not display)**	000~001	000
HDM026	**(Not display)**	000~003	000
HDM027	**(Not display)**	000~255	000

Item No.	Item	Variable range	Setting value
HDM028	**(Not display)**	000~003	000
HDM029	**(Not display)**	000~255	000
HDM030	**(Not display)**	000~003	000
HDM031	**(Not display)**	000~255	000
HDM032	**(Not display)**	000~003	000
HDM033	**(Not display)**	000~255	000
HDM034	**(Not display)**	000~003	000
HDM035	**(Not display)**	000~255	000
HDM036	**(Not display)**	000~255	000
HDM037	**(Not display)**	000~255	000
HDM038	**(Not display)**	000~255	000
HDM039	**(Not display)**	000~001	000
HDM040	**(Not display)**	000~001	000
HDM041	**(Not display)**	000~001	000
HDM042	**(Not display)**	000~255	000
HDM043	**(Not display)**	000~007	000
HDM044	**(Not display)**	000~003	000
HDM045	**(Not display)**	000~003	000
HDM046	**(Not display)**	000~001	000
HDM047	**(Not display)**	000~015	000
HDM048	**(Not display)**	000~255	000
HDM049	**(Not display)**	000~255	000
HDM050	**(Not display)**	000~015	000
HDM051	**(Not display)**	000~001	000
HDM052	**(Not display)**	000~001	000
HDM053	**(Not display)**	000~001	000
HDM054	**(Not display)**	000~001	000
HDM055	**(Not display)**	000~001	000
HDM056	**(Not display)**	000~001	000
HDM057	**(Not display)**	000~001	000
HDM058	**(Not display)**	000~001	000
HDM059	**(Not display)**	000~001	000
HDM060	**(Not display)**	000~001	000
HDM061	**(Not display)**	000~001	000
HDM062	**(Not display)**	000~001	000
HDM063	**(Not display)**	000~001	000
HDM064	**(Not display)**	000~001	000
HDM065	**(Not display)**	000~001	000
HDM066	**(Not display)**	000~001	000
HDM067	**(Not display)**	000~001	000
HDM068	**(Not display)**	000~031	000
HDM069	**(Not display)**	000~001	000
HDM070	**(Not display)**	000~001	000
HDM071	**(Not display)**	000~001	000
HDM072	**(Not display)**	000~001	000

Item No.	Item	Variable range	Setting value
HDM073	**(Not display)**	000~001	000
HDM074	**(Not display)**	000~031	000
HDM075	**(Not display)**	000~001	000
HDM076	**(Not display)**	000~001	000
HDM077	**(Not display)**	000~001	000
HDM078	**(Not display)**	000~001	000
HDM079	**(Not display)**	000~001	000
HDM080	**(Not display)**	000~001	000

Item No.	Item	Variable range	Setting value
RHD001	**(Not display)**	---	000
RHD002	**(Not display)**	---	000
RHD003	**(Not display)**	---	000
RHD004	**(Not display)**	---	000
RHD005	**(Not display)**	---	000
RHD006	**(Not display)**	---	000
RHD007	**(Not display)**	---	000
RHD008	**(Not display)**	---	000
RHD009	**(Not display)**	---	000
RHD010	**(Not display)**	---	000
RHD011	**(Not display)**	---	000
RHD012	**(Not display)**	---	000
RHD013	**(Not display)**	---	000
RHD014	**(Not display)**	---	000
RHD015	**(Not display)**	---	000
RHD016	**(Not display)**	---	000
RHD017	**(Not display)**	---	000
RHD018	**(Not display)**	---	000
RHD019	**(Not display)**	---	000
RHD020	**(Not display)**	---	000
RHD021	**(Not display)**	---	000
RHD022	**(Not display)**	---	000
RHD023	**(Not display)**	---	000
RHD024	**(Not display)**	---	000
RHD025	**(Not display)**	---	000
RHD026	**(Not display)**	---	000
RHD027	**(Not display)**	---	000
RHD028	**(Not display)**	---	000
RHD029	**(Not display)**	---	000
RHD030	**(Not display)**	---	000
RHD031	**(Not display)**	---	000
RHD032	**(Not display)**	---	000
RHD033	**(Not display)**	---	000
RHD034	**(Not display)**	---	000
RHD035	**(Not display)**	---	000

Item No.	Item	Variable range	Setting value
RHD036	**(Not display)**	---	000
RHD037	**(Not display)**	---	000
RHD038	**(Not display)**	---	000
RHD039	**(Not display)**	---	000
RHD040	**(Not display)**	---	000
RHD041	**(Not display)**	---	000
RHD042	**(Not display)**	---	000
RHD043	**(Not display)**	---	000
RHD044	**(Not display)**	---	000
RHD045	**(Not display)**	---	000
RHD046	**(Not display)**	---	000
RHD047	**(Not display)**	---	000
RHD048	**(Not display)**	---	000
RHD049	**(Not display)**	---	000
RHD050	**(Not display)**	---	000
RHD051	**(Not display)**	---	000
RHD052	**(Not display)**	---	000
RHD053	**(Not display)**	---	000
RHD054	**(Not display)**	---	000
RHD055	**(Not display)**	---	000
RHD056	**(Not display)**	---	000
RHD057	**(Not display)**	---	000
RHD058	**(Not display)**	---	000
RHD059	**(Not display)**	---	000
RHD060	**(Not display)**	---	000
RHD061	**(Not display)**	---	000
RHD062	**(Not display)**	---	000
RHD063	**(Not display)**	---	000
RHD064	**(Not display)**	---	000
RHD065	**(Not display)**	---	000
RHD066	**(Not display)**	---	000
RHD067	**(Not display)**	---	000
RHD068	**(Not display)**	---	000
RHD069	**(Not display)**	---	000
RHD070	**(Not display)**	---	000
RHD071	**(Not display)**	---	000
RHD072	**(Not display)**	---	000
RHD073	**(Not display)**	---	000
RHD074	**(Not display)**	---	000
RHD075	**(Not display)**	---	000
RHD076	**(Not display)**	---	000
RHD077	**(Not display)**	---	000
RHD078	**(Not display)**	---	000
RHD079	**(Not display)**	---	000
RHD080	**(Not display)**	---	000

Item No.	Item	Variable range	Setting value
RHD081	**(Not display)**	---	000
RHD082	**(Not display)**	---	000
RHD083	**(Not display)**	---	000
RHD084	**(Not display)**	---	000
RHD085	**(Not display)**	---	000
RHD086	**(Not display)**	---	000
RHD087	**(Not display)**	---	000
RHD088	**(Not display)**	---	000
RHD089	**(Not display)**	---	000
RHD090	**(Not display)**	---	000
RHD091	**(Not display)**	---	000
RHD092	**(Not display)**	---	000
RHD093	**(Not display)**	---	000
RHD094	**(Not display)**	---	000
RHD095	**(Not display)**	---	000
RHD096	**(Not display)**	---	000
RHD097	**(Not display)**	---	000
RHD098	**(Not display)**	---	000
RHD009	**(Not display)**	---	000
RHD100	**(Not display)**	---	000
RHD101	**(Not display)**	---	000
RHD102	**(Not display)**	---	000
RHD103	**(Not display)**	---	000
RHD104	**(Not display)**	---	000
RHD105	**(Not display)**	---	000
RHD106	**(Not display)**	---	000
RHD107	**(Not display)**	---	000
RHD108	**(Not display)**	---	000
RHD109	**(Not display)**	---	000
RHD110	**(Not display)**	---	000
RHD111	**(Not display)**	---	000
RHD112	**(Not display)**	---	000
RHD113	**(Not display)**	---	000
RHD114	**(Not display)**	---	000
RHD115	**(Not display)**	---	000
RHD116	**(Not display)**	---	000
RHD117	**(Not display)**	---	000
RHD118	**(Not display)**	---	000
RHD119	**(Not display)**	---	000
RHD120	**(Not display)**	---	000
RHD121	**(Not display)**	---	000
RHD122	**(Not display)**	---	000
RHD123	**(Not display)**	---	000
RHD124	**(Not display)**	---	000
RHD125	**(Not display)**	---	000

Item No.	Item	Variable range	Setting value
RHD126	**(Not display)**	---	000
RHD127	**(Not display)**	---	000
RHD128	**(Not display)**	---	000
RHD129	**(Not display)**	---	000
RHD130	**(Not display)**	---	000
RHD131	**(Not display)**	---	000
RHD132	**(Not display)**	---	000
RHD133	**(Not display)**	---	000
RHD134	**(Not display)**	---	000
RHD135	**(Not display)**	---	000
RHD136	**(Not display)**	---	000
RHD137	**(Not display)**	---	000
RHD138	**(Not display)**	---	000
RHD139	**(Not display)**	---	000
RHD140	**(Not display)**	---	000
RHD141	**(Not display)**	---	000
RHD142	**(Not display)**	---	000
RHD143	**(Not display)**	---	000
RHD144	**(Not display)**	---	000
RHD145	**(Not display)**	---	000
RHD146	**(Not display)**	---	000
RHD147	**(Not display)**	---	000
RHD148	**(Not display)**	---	000
RHD149	**(Not display)**	---	000
RHD150	**(Not display)**	---	000
RHD151	**(Not display)**	---	000
RHD152	**(Not display)**	---	000
RHD153	**(Not display)**	---	000
RHD154	**(Not display)**	---	000
RHD155	**(Not display)**	---	000
RHD156	**(Not display)**	---	000
RHD157	**(Not display)**	---	000
RHD158	**(Not display)**	---	000
RHD159	**(Not display)**	---	000
RHD160	**(Not display)**	---	000
RHD161	**(Not display)**	---	000
RHD162	**(Not display)**	---	000
RHD163	**(Not display)**	---	000
RHD164	**(Not display)**	---	000
RHD165	**(Not display)**	---	000
RHD166	**(Not display)**	---	000
RHD167	**(Not display)**	---	000
RHD168	**(Not display)**	---	000
RHD169	**(Not display)**	---	000
RHD170	**(Not display)**	---	000

4.7 ADJUSTMENT PROCEDURE

4.7.1 SETTING BEFORE ADJUSTMENT

(1) Check the following settings before adjustment.

Item	setting value	contents
S19	128	R CUT OFF
S21	128	G CUT OFF
S23	128	B CUT OFF

(2) Take note of initial values in the following table before adjustment. Then, set the values to adjustment setting values shown in the following table. After adjustment procedure, return the values to the initial values you have taken note of (except white balance adjustment).
The values can be set for each input signal (NTSC etc.), but the values are basically the same among the input signals.
Since the values are not adjusted for 525p/750p (because the values change according to the reference adjustment values), you do not have to take note of the values if unnecessary.

Item	Initial value NTSC	Initial value 525p	Initial value 1125i	Initial value 750p	setting value	contents
S13					255	R DRIVE
S15					255	G DRIVE
S17					255	B DRIVE

(3) Unless otherwise specified in the adjustment instructions, preset the following functions with the remote control unit:

Setting item	Settings
VIDEO STATUS	STANDARD
BRIGHT / CONTRAST / COLOR / TINT	00
COLOR TEMPERATURE	LOW
DIG. NOISE CLEAR	OFF
COLOR MANEGMENT	STANDARD
NATURAL CINEMA	OFF
TREBLE / BASS / BALANCE	00
BBE	OFF
A.H.S	OFF
A.H.B	OFF
ASPECT	FULL

NOTE:
Follow the order instructed in adjustment procedure.

4.7.2 VIDEO CIRCUIT

Item	Measuring instrument	Test point	Adjustment part	Description
COMPONENT INPUT BLACK LEVEL	Remote control unit Signal generator		[8.PP] ADM013: (NO DISPLAY) (G offset) [1. PICTURE/SOUND] S13: RDRV (R DRIVE) S15: GDRV (G DRIVE) S17: BDRV (B DRIVE) S19: CUTR (R CUTOFF) S21: CUTG (G CUTOFF) S23: CUTB (B CUTOFF) F44: (NO DISPLAY) (Picture control) F45: (NO DISPLAY) (Picture control mode sw) F46: OUT LV. (Output level upon detection) F47: LMT BTM (Minimum value upon detection) F48: LMT TOP (Maximum value upon detection)	(1) Input 525i signal that shows brightness gradation with 0% black into a component input terminal. (2) Set “VIDEO STATUS” to STANDARD. (3) Set “ASPECT” to FULL. (4) Select "COLOR TEMPERATURE" to LOW. (5) Select "1.PICTURE/SOUND" from the SERVICE MODE. (6) Set < F44 > (Picture control) to "001" and < F45 > (Picture control mode sw) to "000" to set Y ADJUST MAX MODE. (7) Set < F46 > (Output level upon detection),< F47 > (Minimum value upon detection), and < F48 > (Maximum value upon detection) to values as shown in the left table. (8) Press the [MUTING] key to memoirze the set value. (9) Select "8.PP" from the SERVICE MODE. (10) Adjust < ADM013 > (G OFFSET) to set the 0% black part on the upper half of the screen to maximum brightness. (Fig.2) (11) Add reference offset value "0" to the < ADM013 > (G OFFSET) value. (12) Press the [MUTING] key to memoirze the set value. (13) Select "1.PICTURE/SOUND" from the SERVICE MODE. (14) Check the black level. Adjust the black level again if it is not proper. (15) Set < F44 > (Picture control) to "001" to cancel Y ADJUST MAX MODE. (16) Press the [MUTING] key to memoirze the set value. (17) Input 1125i signal. (18) Repeat steps (5) to (16) above.

Item No.	Setting value	Adjustment item
F46	090	Output level upon detection
F47	016	Minimum value upon detection
F48	016	Maximum value upon detection

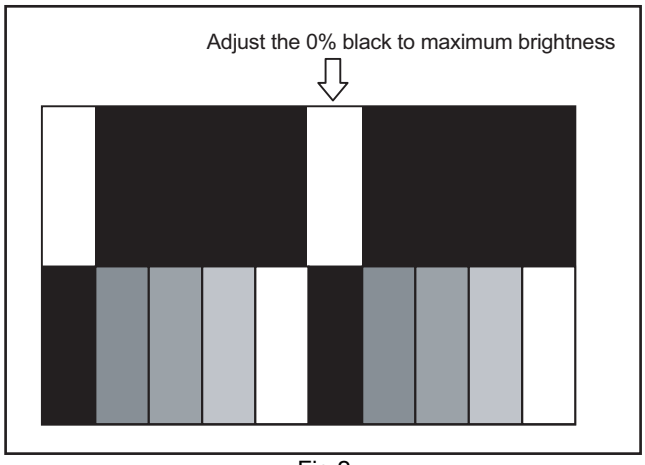


Fig.2

Item	Measuring instrument	Test point	Adjustment part	Description
COMPONENT INPUT A-D CONVERTER GAIN	Remote control unit Signal generator		[8.PP] ADM010: (NO DISPLAY) (G GAIN) [1. PICTURE/SOUND] S13: RDRV (R DRIVE) S15: GDRV (G DRIVE) S17: BDRV (B DRIVE) S19: CUTR (R CUTOFF) S21: CUTG (G CUTOFF) S23: CUTB (B CUTOFF) F44: (NO DISPLAY) (Picture control) F45: (NO DISPLAY) (Picture control mode sw) F46: OUT LV. (Output level upon detection) F47: LMT BTM (Minimum value upon Detection) F48: LMT TOP (Maximum value upon detection)	(1) Input 525i 100% all-white signal into a component input terminal. (2) Set "VIDEO STATUS" to STANDARD. (3) Set "ASPECT" to FULL. (4) Select "COLOR TEMPERATURE" to LOW. (5) Select "1.PICTURE/SOUND" from the SERVICE MODE. (6) Set < F44 > (Picture control) to "001" and < F45 > (Picture control mode sw) to "000" to set Y ADJUST MAX MODE. (7) Set < F46 > (Output level upon detection), < F47 > (Minimum value upon detection), and < F48 > (Maximum value upon detection) to values as shown in the left table. (8) Press the [MUTING] key to memoirze the set value. (9) Select "8.PP" from the SERVICE MODE. (10) Adjust < ADM010 > (G GAIN) to set the upper half of the screen to maximum brightness. (Fig.3) (11) Press the [MUTING] key to memoirze the set value. (12) Check the black level. Perform the "BLACK LEVEL Adjustment" again if the adjusted value is not proper. (13) Select "1.PICTURE/SOUND" from the SERVICE MODE. (14) Set < F44 > (Picture control) to "000" to cancel Y ADJUST MAX MODE. (15) Press the [MUTING] key to memoirze the set value. (16) Input 1125i signal. (17) Repeat steps (5) to (15) above.

Item No.	Setting value	Adjustment item
F46	090	Output level upon detection
F47	220	Minimum value upon detection
F48	220	Maximum value upon detection

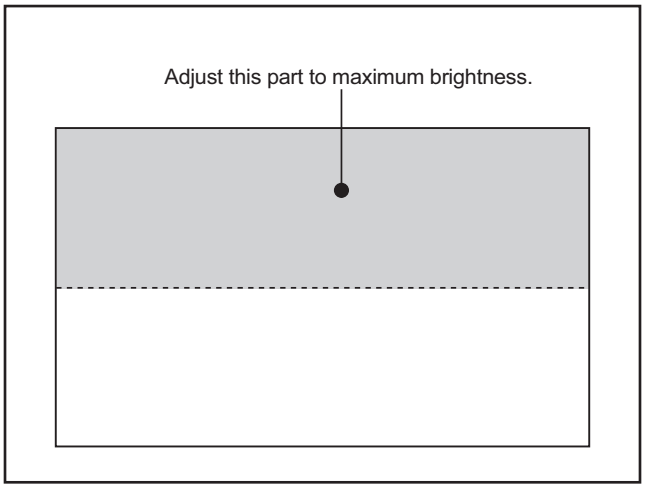


Fig.3

Item	Measuring instrument	Test point	Adjustment part	Description
COMPONENT INPUT A-D CONVERTER OFFSET	Remote control unit Signal generator		[8.PP] ADM012: (NO DISPLAY) (R OFFSET) ADM014: (NO DISPLAY) (B OFFSET) [1. PICTURE/SOUND] S13: RDRV (R DRIVE) S15: GDRV (G DRIVE) S17: BDRV (B DRIVE) S19: CUTR (R CUTOFF) S21: CUTG (G CUTOFF) S23: CUTB (B CUTOFF) F44: (NO DISPLAY) (Picture control) F45: (NO DISPLAY) (Picture control mode sw) F46: OUT LV. (Output level upon detection) F47: LMT BTM (Minimum value upon detection) F48: LMT TOP (Maximum value upon detection)	(1) Input 525i component 30% all-white signal into a component input terminal. (2) Set "VIDEO STATUS" to STANDARD. (3) Set "ASPECT" to FULL. (4) Select "COLOR TEMPERATURE" to LOW. (5) Select "1.PICTURE/SOUND" from the SERVICE MODE. (6) Set < F44 > (Picture control) to "001" and < F45 > (Picture control mode sw) to "003" to set the chrominance adjustment zero mode. (7) Set < F46 > (Output level upon detection), < F47 > (Minimum value upon detection), and < F48 > (Maximum value upon detection) to values as shown in the left table. (8) Press the [MUTING] key to memoirze the set value. (9) Select "8.PP" from the SERVICE MODE. (10) Change the value of < ADM014 > (B OFFSET) from the initial value in the range of ±5 to set the upper half of the screen magenta. (11) Adjust < ADM012 > (R OFFSET) to change the upper half of the screen from magenta to blue. (12) Take a note of the value of < ADM012 > (R OFFSET) adjusted in (11). (13) Change the value of < ADM012 > (R OFFSET) from the value that you have taken note of in the range of ±5 to set the upper half of the screen magenta. (14) Adjust < ADM014 > (B OFFSET) to change the upper half of the screen from magenta to red. (15) Return the value of < ADM012 > (R OFFSET) to the value that you have taken note of in (12). (16) Press the [MUTING] key to memoirze the set value. (17) Set the SPLIT screen mode. (18) Input monochrome signal such as cross hatch both to the right and the left screen. (19) Set < ADM012 > (R OFFSET) and < ADM014 > (B OFFSET) to the same values as in single-screen mode. (20) Press the [MUTING] key to memoirze the set value. (21) Set < F44 > (Picture control) to "000" to cancel the chrominance adjustment zero mode. (22) Press the [MUTING] key to memoirze the set value. (23) Input 1125i 30% all-white signal. (24) Repeat steps (5) to (22) above.

Item No.	Setting value	Adjustment item
F46	090	Output level upon detection
F47	000	Minimum value upon detection
F48	000	Maximum value upon detection

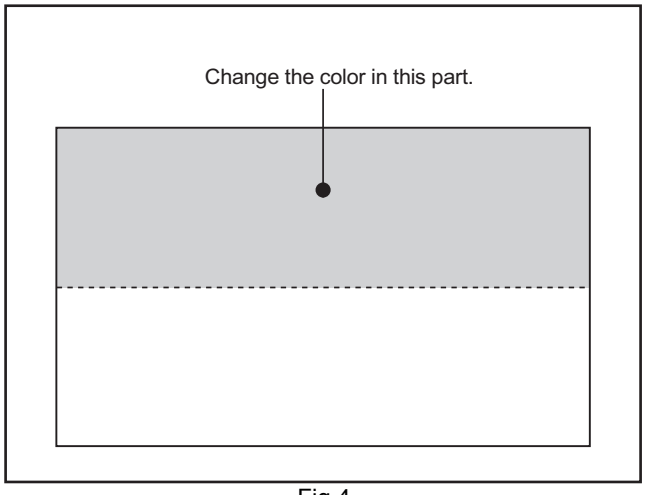


Fig.4

Item	Measuring instrument	Test point	Adjustment part	Description
COMPOSITE INPUT BLACK LEVEL	Remote control unit Signal generator		[2. YC SEP] YCM131: (NO DISPLAY) (BRIGHTNESS) [1. PICTURE/SOUND] S13: RDRV (R DRIVE) S15: GDRV (G DRIVE) S17: BDRV (B DRIVE) S19: CUTR (R CUTOFF) S21: CUTG (G CUTOFF) S23: CUTB (B CUTOFF) F44: (NO DISPLAY) (Picture control) F45: (NO DISPLAY) (Picture control mode sw) F46: OUT LV. (Output level upon detection) F47: LMT BTM (Minimum value upon detection) F48: LMT TOP (Maximum value upon detection)	(1) Input NTSC signal that shows brightness gradation with 0% black. (2) Set "VIDEO STATUS" to STANDARD. (3) Set "ASPECT" to FULL. (4) Select "COLOR TEMPERATURE" to LOW. (5) Select "1.PICTURE/SOUND" from the SERVICE MODE. (6) Set < F44 > (Picture control) to "001" and < F45 > (Picture control mode sw) to "000" to set Y ADJUST MAX MODE. (7) Set < F46 > (Output level upon detection), < F47 > (Minimum value upon detection), and < F48 > (Maximum value upon detection) to values as shown in the left table. (8) Select "2. YC SEP" from the SERVICE MODE. (9) Adjust < YCM131 > (BRIGHTNESS) so that 0% part of gradation is the brightest. (Fig. 5) (10) Press the [MUTING] key to memoirze the set value. (11) Select "1.PICTURE/SOUND" from the SERVICE MODE. (12) Set < F44 > (Picture control) to "000" to cancel Y ADJUST MAX MODE. (13) Press the [MUTING] key to memoirze the set value.

Item No.	Setting value	Adjustment item
F46	090	Output level upon detection
F47	016	Minimum value upon detection
F48	016	Maximum value upon detection

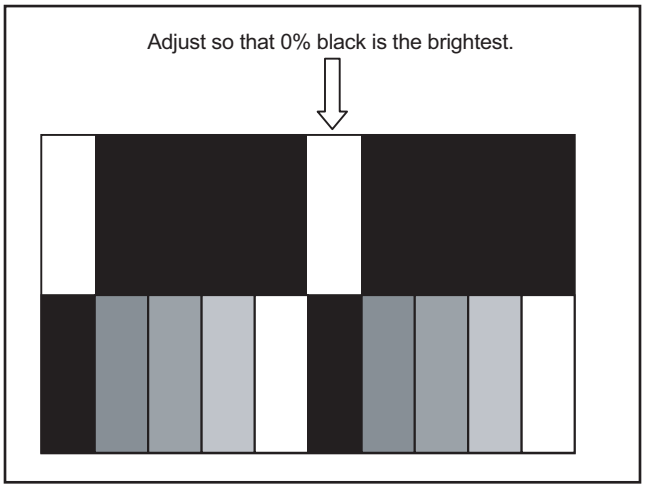


Fig.5

Item	Measuring instrument	Test point	Adjustment part	Description
COMPOSITE INPUT A-D CONVERTER OFFSET	Remote control unit Signal generator		[2. YC SEP] YCM132: (NO DISPLAY) (CONTRAST) [1. PICTURE/SOUND] S13: RDRV (R DRIVE) S15: GDRV (G DRIVE) S17: BDRV (B DRIVE) S19: CUTR (R CUTOFF) S21: CUTG (G CUTOFF) S23: CUTB (B CUTOFF) F44: (NO DISPLAY) (Picture control) F45: (NO DISPLAY) (Picture control mode sw) F46: OUT LV. (Output level upon detection) F47: LMT BTM (Minimum value upon detection) F48: LMT TOP (Maximum value upon detection)	(1) Input a signal that shows brightness gradation with 75% white. (2) Set "VIDEO STATUS" to STANDARD. (3) Set "ASPECT" to FULL. (4) Select "COLOR TEMPERATURE" to LOW. (5) Select "1.PICTURE/SOUND" from the SERVICE MODE. (6) Set < F44 > (Picture control) to "001" and <F45 > (Picture control mode sw) to "000" to set Y ADJUST MAX MODE. (7) Set < F46 > (Output level upon detection), < F47 > (Minimum value upon detection), and < F48 > (Maximum value upon detection) to values as shown in the left table. (8) Select "2.YC SEP" from the SERVICE MODE. (9) Adjust < YCM132 > (CONTRAST) so that the 75% white of gradation is white. (Fig.6) (10) Press the [MUTING] key to memoirze the set value. (11) Check the black level adjusted in composite input black level adjustment. Perform the "Composite input black level Adjustment" again if the adjusted value is not proper. (12) Perform (9) and (10) if you readjust the black level in (11). (13) Select "1.PICTURE/SOUND" from the SERVICE MODE. (14) Set < F44 > (Picture control) to "000" to cancel Y ADJUST MAX MODE. (15) Press the [MUTING] key to memoirze the set value.

Item No.	Setting value	Adjustment item
F46	090	Output level upon detection
F47	165	Minimum value upon detection
F48	165	Maximum value upon detection

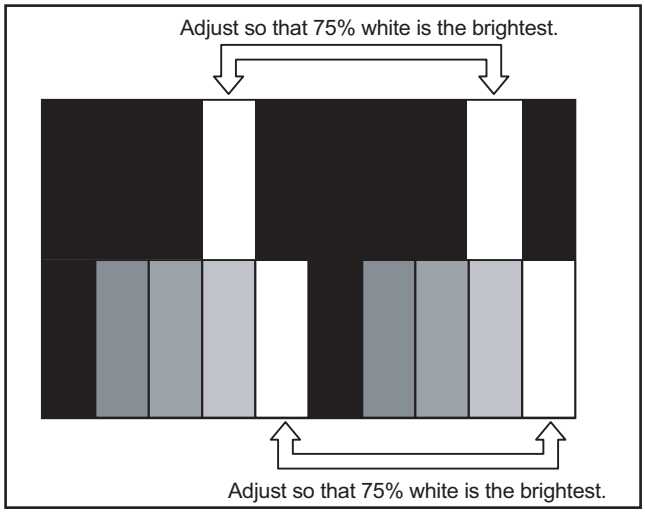


Fig.6

Item	Measuring instrument	Test point	Adjustment part	Description
SUB-SCREEN BLACK LEVEL	Remote control unit Signal generator		[8. PP] ADM013: (NO DISPLAY) (G offset) [1. PICTURE/SOUND] S13: RDRV (R DRIVE) S15: GDRV (G DRIVE) S17: BDRV (B DRIVE) S19: CUTR (R CUTOFF) S21: CUTG (G CUTOFF) S23: CUTB (B CUTOFF) F44: (NO DISPLAY) (Picture control) F45: (NO DISPLAY) (Picture control mode sw) F46: OUT LV. (Output level upon detection) F47: LMT BTM (Minimum value upon detection) F48: LMT TOP (Maximum value upon detection)	(1) Input NTSC signal that shows brightness gradation with 0% black into both the right and the left screen. (2) Set "VIDEO STATUS" to STANDARD. (3) Set "ASPECT" to FULL. (4) Select "COLOR TEMPERATURE" to LOW. (5) Set SPLIT screen mode. (6) Select "1.PICTURE/SOUND" from the SERVICE MODE for the right screen. (7) Set < F44 > (Picture control) to "001" and <F45 > (Picture control mode sw) to "000" to set Y ADJUST MAX MODE. (8) Set < F46 > (Output level upon detection), < F47 > (Minimum value upon detection), and < F48 > (Maximum value upon detection) to values as shown in the left table. (9) Press the [MUTING] key to memoirze the set value. (10) Select "8.PP" from the SERVICE MODE. (11) Adjust < ADM013 > (G OFFSET) to set the 0% black part on the upper right half of the screen to the same color as on the upper left half of the screen. (Fig.7) (12) Press the [MUTING] key to memoirze the set value. (13) Select "1.PICTURE/SOUND" from the SERVICE MODE. (14) Set < F44 > (Picture control) to "000" to cancel Y ADJUST MAX MODE (15) Press the [MUTING] key to memoirze the set value.

Item No.	Setting value	Adjustment item
F46	090	Output level upon detection
F47	016	Minimum value upon detection
F48	016	Maximum value upon detection

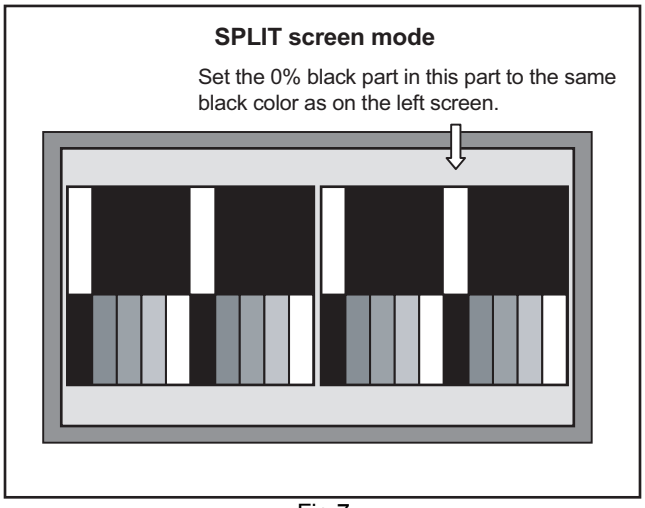


Fig.7

Item	Measuring instrument	Test point	Adjustment part	Description
SUB-SCREEN A-D CONVERTER GAIN	Remote control unit Signal generator		[8. PP] ADM010: (NO DISPLAY) (G GAIN) [1. PICTURE/SOUND] S13: RDRV (R DRIVE) S15: GDRV (G DRIVE) S17: BDRV (B DRIVE) S19: CUTR (R CUTOFF) S21: CUTG (G CUTOFF) S23: CUTB (B CUTOFF) F44: (NO DISPLAY) (Picture control) F45: (NO DISPLAY) (Picture control mode sw) F46: OUT LV. (Output level upon detection) F47: LMT BTM (Minimum value upon detection) F48: LMT TOP (Maximum value upon detection)	(1) Input NTSC signal that shows brightness gradation with 75% white into both the right and the left screen. (2) Set "VIDEO STATUS" to STANDARD. (3) Set "ASPECT" to FULL. (4) Select "COLOR TEMPERATURE" to LOW. (5) Set SPLIT screen mode. (6) Select "1.PICTURE/SOUND" from the SERVICE MODE for the right screen. (7) Set < F44 > (Picture control) to "001" and <F45 > (Picture control mode sw) to "000" to set Y ADJUST MAX mode. (8) Set < F46 > (Output level upon detection), < F47 > (Minimum value upon detection), and < F48 > (Maximum value upon detection) to values as shown in the left table. (9) Press the [MUTING] key to memoirze the set value. (10) Select "8.PP" from the SERVICE MODE. (11) Adjust < ADM010 > (G OFFSET) so that the 75% white part on the upper right part of the screen is white. (Fig.8) (12) Press the [MUTING] key to memoirze the set value. (13) Check the black level adjusted in "SPLIT screen BLACK LEVEL adjustment". Adjust the black level of SUB SCREEN again if it is not proper. (14) Select "1.PICTURE/SOUND" from the SERVICE MODE. (15) Set < F44 > (Picture control) to "000" to cancel Y ADJUST MAX MODE. (16) Press the [MUTING] key to memoirze the set value.

Item No.	Setting value	Adjustment item
F46	090	Output level upon detection
F47	168	Minimum value upon detection
F48	168	Maximum value upon detection

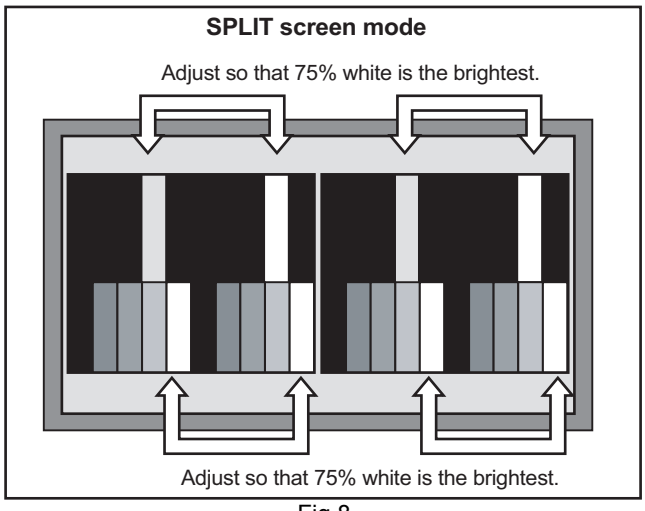
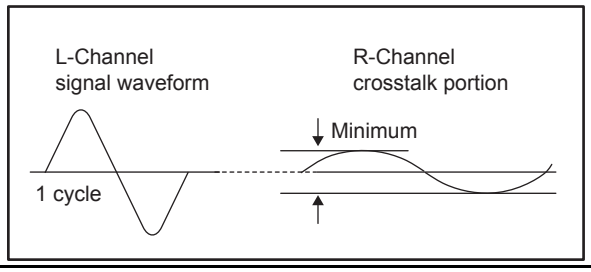


Fig.8

Item	Measuring instrument	Test point	Adjustment part	Description
WHITE BALANCE (HIGHLIGHT)	Remote control unit Signal generator		[1. PICTURE/SOUND] S13: RDRV (R DRIVE) S15: GDRV (G DRIVE) S17: BDRV (B DRIVE) S19: CUTR (R CUTOFF) S21: CUTG (G CUTOFF)	(1) Input NTSC 75% all-white signal. (2) Set "VIDEO STATUS" to STANDARD. (3) Set "ASPECT" to FULL. (4) Select "COLOR TEMPERATURE" to LOW. (5) Select "1.PICTURE/SOUND" from the SERVICE MODE. (6) Fix one of < S13 > (R DRIVE), < S15 > (G DRIVE), or < S17 > (B DRIVE). Lower the two that are not fixed so that the all-white screen is equally white throughout. **Set one or more of < S13 >, < S15 >, and < S17 > to "255".** (7) Check that white balance is properly tracked from lowlight to highlight. (8) Press the [MUTING] key to memoirze the set value. (9) Input 1125i 75% all-white signal. (10) Repeat steps (5) to (8) above. (11) Input 525i all-white signal. (12) Repeat steps (5) to (8) above.

4.7.3 MTS CIRCUIT

Item	Measuring instrument	Test point	Adjustment part	Description
MTS INPUT LEVEL	MPX Signal generator Remote control unit		[1.PICTURE/SOUND] A18: IN LEVEL	(1) Input the color bar signal (400Hz). (2) Select 1.PICTURE/SOUND from the SERVICE MODE. (3) Verify that the < A18 > (IN LEVEL) is set at its initial setting value. (4) Press the [MUTING] key to memorize the set value.
MTS SEPARATION	TV audio multiplex signal generator Oscilloscope Remote control unit	L OUT R OUT	[1.PICTURE/SOUND] A19: LOW SEP A20: HI SEP	(1) Input the stereo L signal (300Hz) from the TV audio multiplex signal generator to the antenna terminal. (2) Connect an oscilloscope to L OUT pin of the MONITOR OUT, and display one cycle portion of the 300Hz signal. (3) Change the connection of the oscilloscope to R OUT pin of the MONITOR OUT, and enlarge the voltage axis. (4) Select 1.PICTURE/SOUND from the SERVICE MODE. (5) Set the initial setting value of the < A19 > (LOW SEP). (6) Adjust the < A19 > so that the stroke element of the 300Hz signal will become minimum. (7) Change the signal to 3kHz, and similarly adjust the < A20 > (HI SEP). (8) Press the [MUTING] key to memorize the set value.



SECTION 5
TROUBLESHOOTING

5.1 SELF-DIAGNOSIS FEATURE

5.1.1 OUTLINE

This unit comes with the "Self-diagnosis" feature, which checks the operational state of the circuit and displays/saves it during failure.Diagnosis is performed when power is turned on, and information input to the main microcomputer is monitored at all time.Diagnosis is displayed in 2 ways via screen display and LED flashes. Failure detection is based on input state of I^2C bus and the various control lines connected to the main microcomputer.

5.1.2 HOW TO ENTER THE SELF-DIAGNOSIS DISPLAY MODE

Before entering the Self-diagnosis Display mode, confirm that the setting of TV / CATV SW of the REMOTE CONTROL UNIT is at the "TV" side and the setting of VCR / DVD SW is at the "VCR" side. If the switches have not been properly set, you cannot enter the Self-diagnosis Display mode.

(1) Press the [SLEEP TIMER] key and set it to 30 minutes.
(2) Press the [VIDEO STATUS] key and [DISPLY] key simultaneously, then enter the TEST MODE.
(3) Press the [4] key (Self-diagnosis Display mode) before the service mode screen disappears.
(4) Press the [MTS] key to enter Page 2 of the Self-diagnosis Display mode.
*Use the [MTS] key to toggle between Page 1 and Page 2.

NOTE:
The remote control unit attached to this set does not contain the [MTS] key. To perform the procedure (4), use a remote control unit that contains the [MTS] key.

5.1.3 HOW TO EXIT THE SELF-DIAGNOSIS DISPLAY MODE

To Save Failure History:
Turn off the power by unplugging the AC power cord plug when in the self-diagnosis display mode.
To Clear (Reset) Failure History:
Turn off the power by pressing the [POWER] key on the remote control unit when in the self-diagnosis display mode.

5.1.4 FAILURE HISTORY

Failure history can be counted up to 9 times for each item.When the number exceeds 9, display will remain as 9. Failure history will be stored in the memory unless it has been deleted.

NOTE:
Only SYNC (with/without sync signals) will be neither counted nor stored.

5.1.5 POINTS TO NOTE WHEN USING THE SELF-DIAGNOSIS FEATURE

In addition to circuit failures (abnormal operation), the following cases may also be iagnosed as "Abnormal" and displayed and counted as "NG".

(1) Temporary defective transmissions across circuits due to pulse interruptions
(2) Misalignment in the on/off timing of power for I^2C bus (VCC) when turning on/off the main power.

Diagnosis may be impeded if a large number of items are displayed as "NG". As such, start self-diagnosis check only after 3 seconds in the case of receivers and 5 seconds in the case of panels upon turning on the power. If recurrences are expected, ensure to clear (reset) the failure history and record the new diagnosis reults.

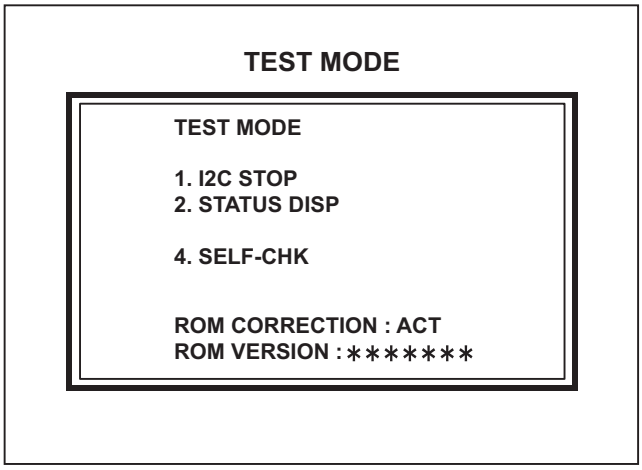


Fig.1

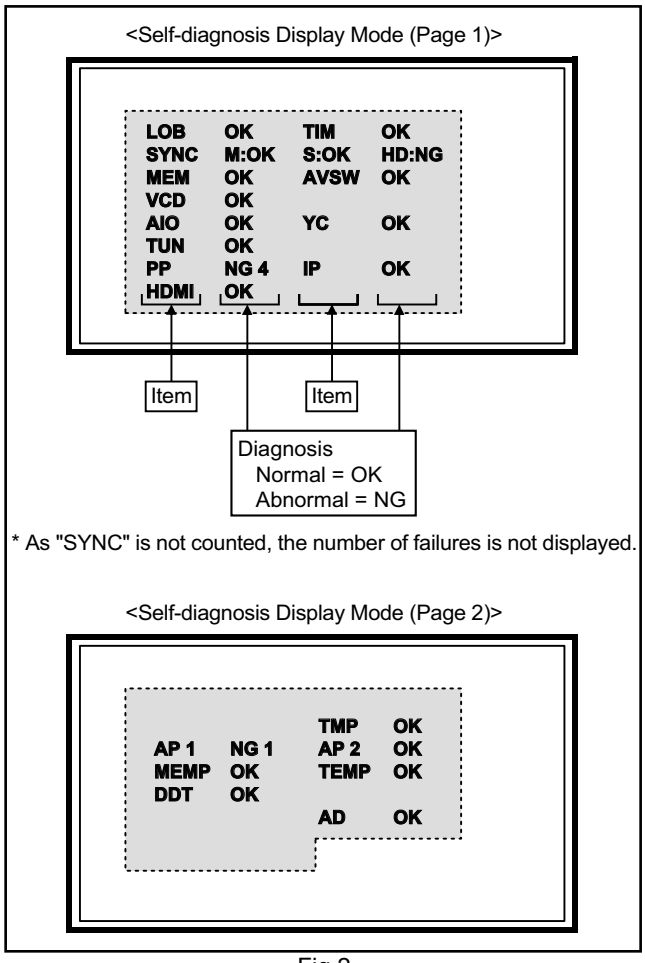


Fig.2

5.1.6 DETAILS

Self-diagnosis is performed for the following items:

• **PAGE 1**

Item	Display	Description of detection	Diagnosis signal (line)	Means of detection
LOW B LINE SHORT PROTECTION	LOB	Was Low B line short protector activated? No. of times short circuit protection is triggered [POWER PWB] (3.3V / LCD 5V / 9V / 13V / AVCC)	PROTECTOR	Detection starts 3 seconds upon power on Turns off power if NG is detected within 200ms
TIMER	TIM	Did power supply frequency fluctuated from: 50Hz → 60Hz 60Hz → 50Hz Number of counts [POWER PWB (PC9001)]	AC	Regularly detects power supply frequency by AC pulse counts and monitors frequency fluctuations other than instances immediately after reset
WITH / WITHOUT SYNC SIGNALS	SYNC	Are there synchronized signals? HD: Color difference synchronized signals M: Main Synchronized signals S: Sub-synchronized signals [IC1211]	SDA	Checks whether there are synchronized signal in video signal
MEMORY	MEM	Is ACK returned during I^2C transmission? [IC1703]	SDA	Monitors upon every I^2C transmission and counts if ACK is not returned
AV SWITCH	AVSW	Same as above [IC1301]	SDA	Same as above
VIDEO CHROMA	VCD	Same as above [IC7301]	SDA	Same as above
AUDIO PROCESSING	AIO	Same as above [IC6501]	SDA	Same as above
3D Y/C SEPARATION	YC	Same as above [IC3001]	SDA	Same as above
RF TUNER	TUN	Same as above [TU1101]	SDA	Same as above
MULTI-SCREEN PROCESSING	PP	Is ACK returned during I^2C transmission?	SDA	Monitors upon every I^2C transmission and counts if ACK is not returned
DIST PROCESSING	IP	Same as above [IC201]	SDA	Same as above
HDMI	HDMI	Not used (Only display)	----	----

• **PAGE 2**

Item	Display	Description of detection	Diagnosis signal (line)	Means of detection
DEFECTIVE AUDIO OUTPUT PART	AP1	Detects short and abnormal temperature in audio circuit. [IC6641]	SDA	Detection starts 3 seconds upon power on. Performs detection every 16ms. If NG lasts for 300ms, audio output part is defective. Controls [/AMP_RST] to [L]→(0.5S)→[H]. Monitors again, and turns off power if the defect is not corrected within 3 seconds.
	AP2	Fault load of audio output part. [IC6641]		
DEVICE DRIVE COLOR MANAGEMENT	DDT	Is ACK returned during I^2C transmission? [IC401]	SDA	Monitors upon every I^2C transmission and counts if ACK is not returned.
A-D CONVERTER	AD	Is ACK returned during I^2C transmission? [IC001]	SDA	Monitors upon every I^2C transmission and counts if ACK is not returned.

5.1.7 DISPLAY METHOD WHEN RASTER IS NOT AVAILABLE

When raster is not displayed due to failure of the set, the POWER LED light will flash to indicate the ailure mode. Trigger for forced shutdown of power is stored and displayed.

Trigger of error	Display	LED flash cycle of display unit
LOW B LINE SHORT PROTECTION	LOB	Blue every 1.0 sec
DEFECTIVE AUDIO OUTPUT PART	AP1	Blue every 0.1 sec
	AP2	Blue every 0.5 sec

Details on Operation

Power of TV will be turned off when NG is detected for LOW B short Protection". "POWER LED" will start flashing immediately after power is turned off and power of tuner and panel cannot be turned on upon shutdown until the AC plugs are disconnected once and reconnected.

JVC SERVICE & ENGINEERING COMPANY OF AMERICA

DIVISION OF JVC AMERICAS CORP.

www.jvcservice.com(US Only)

JVC CANADA INC.

Head office : 21 Finchdene Square Scarborough, Ontario M1X 1A7 (416)293-1311

JVC®

(No.YA004)

Printed in Japan
WPC

JVC

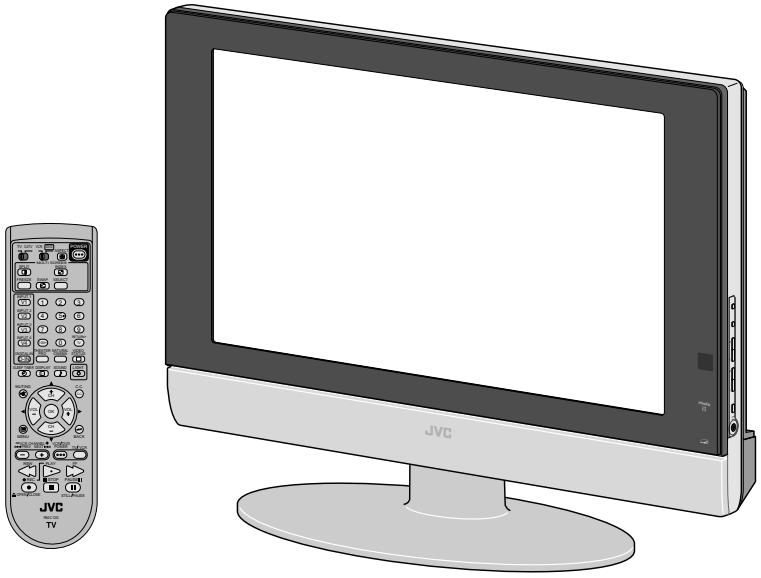
SCHEMATIC DIAGRAMS

LCD FLAT TELEVISION

LT-32WX84 /HA

CD-ROM No.SML200402

BASIC CHASSIS
SB5



I'Art™ Palette

D.I.S.T. Digital Image Scaling Technology

BBE

COPYRIGHT © 2004 VICTOR COMPANY OF JAPAN, LIMITED

No.YA004
2004/2

LT-32WX84/HA

STANDARD CIRCUIT DIAGRAM

■ NOTE ON USING CIRCUIT DIAGRAMS

1.SAFETY

The components identified by the ⚠ symbol and shading are critical for safety. For continued safety replace safety ciritical components only with manufactures recommended parts.

2.SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

(1)Input signal	: Colour bar signal
(2)Setting positions of each knob/button and variable resistor	: Original setting position when shipped
(3)Internal resistance of tester	: DC 20kΩ /V
(4)Oscilloscope sweeping time	: H ⇒ 20μs / div
	: V ⇒ 5ms / div
	: Othters ⇒ Sweeping time is specified
(5)Voltage values	: All DC voltage values

∗ Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3.INDICATION OF PARTS SYMBOL [EXAMPLE]

● In the PW board : R1209 → R209

4.INDICATIONS ON THE CIRCUIT DIAGRAM

(1)Resistors

● Resistance value

No unit	: [Ω]
K	: [kΩ]
M	: [MΩ]

● Rated allowable power

No indication	: 1/16 [W]
Others	: As specified

● Type

No indication	: Carbon resistor
OMR	: Oxide metal film resistor
MFR	: Metal film resistor
MPR	: Metal plate resistor
UNFR	: Uninflammable resistor
FR	: Fusible resistor

∗ Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2)Capacitors

● Capacitance value

1 or higher	: [pF]
less than 1	: [μF]

● Withstand voltage

No indication	: DC50[V]
Others	: DC withstand voltage [V]
AC indicated	: AC withstand voltage [V]

∗ Electrolytic Capacitors

47/50[Example]: Capacitance value [μF]/withstand voltage[V]

● Type

No indication	: Ceramic capacitor
MM	: Metalized mylar capacitor
PP	: Polypropylene capacitor
MPP	: Metalized polypropylene capacitor
MF	: Metalized film capacitor
TF	: Thin film capacitor
BP	: Bipolar electrolytic capacitor
TAN	: Tantalum capacitor

(3)Coils

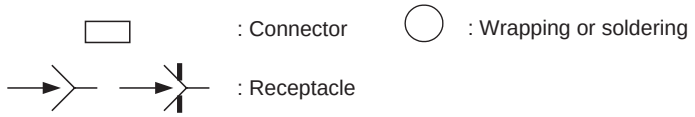
No unit	: [μH]
Others	: As specified

(4)Power Supply

∗ Respective voltage values are indicated

(5)Test point

(6)Connecting method



(7)Ground symbol

: LIVE side ground
: ISOLATED(NEUTRAL) side ground
: EARTH ground
: DIGITAL ground

5.NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND and the ISOLATED(NEUTRAL) : (⏚) side GND. Therefore, care must be taken for the following points.

(1)Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. if the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.

(2)Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected, a fuse or any parts will be broken.

◆ **Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.**

NOTE

◆ **Due improvement in performance, some part numbers show in the circuit diagram may not agree with those indicated in the part list.**
When ordering parts, please use the numbers that appear in the Parts List.

CONTENTS

SEMICONDUCTOR SHAPES 2-2
BLOCK DIAGRAM 2-3
CIRCUIT DIAGRAMS 2-5
- RECEIVER PWB CIRCUIT DIAGRAM 2-5
- VIDEO PWB CIRCUIT DIAGRAM 2-11
- POWER PWB CIRCUIT DIAGRAM 2-15
- REGULATOR PWB CIRCUIT DIAGRAM 2-19
- FRONT SENSOR PWB CIRCUIT DIAGRAM 2-21
- FRONT CONTROL PWB CIRCUIT DIAGRAM 2-23

PATTERN DIAGRAMS 2-25
- RECEIVER PWB PATTERN 2-25
- VIDEO PWB PATTERN 2-27
- POWER PWB PATTERN 2-29
- REGULATOR PWB PATTERN 2-33
- FRONT SENSOR PWB PATTERN 2-34
- FRONT CONTROL PWB PATTERN 2-34

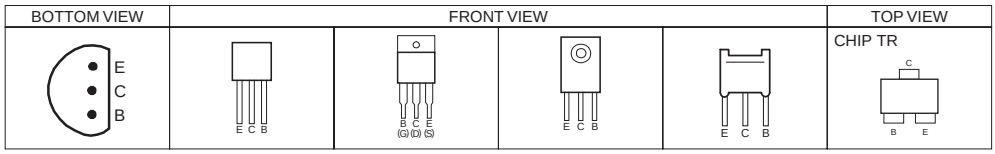
VOLTAGE CHART 2-35
WAVEFORMS 2-36
CHANNEL CHART (US) 2-37
CHANNEL CHART (CA) 2-38

USING P.W. BOARD

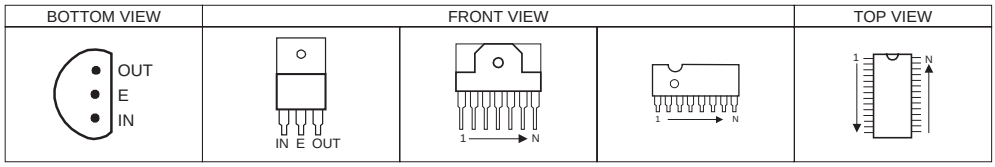
PWB ASS'Y name	PWB ASS'Y No.
RECEIVER P.W. BOARD	LCA90182-01B(SSB-0J086A)
VIDEO P.W. BOARD	LCA90152-03C(SSB-1086A)
POWER P.W. BOARD	LCA90149-07F(SSB-9091A)
REGULATOR P.W. BOARD	LCA90150-07D(SSB-9191A)
FRONT SENSOR P.W. BOARD	LCA90155-03B(SSB-0L286A)
FRONT CONTROL P.W. BOARD	LCA90154-03D(SSB-0L386A)

SEMICONDUCTOR SHAPES

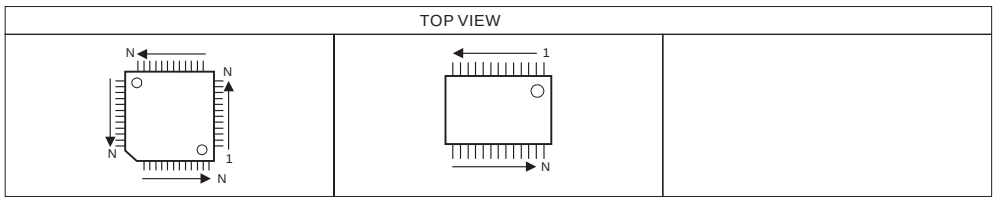
TRANSISTOR



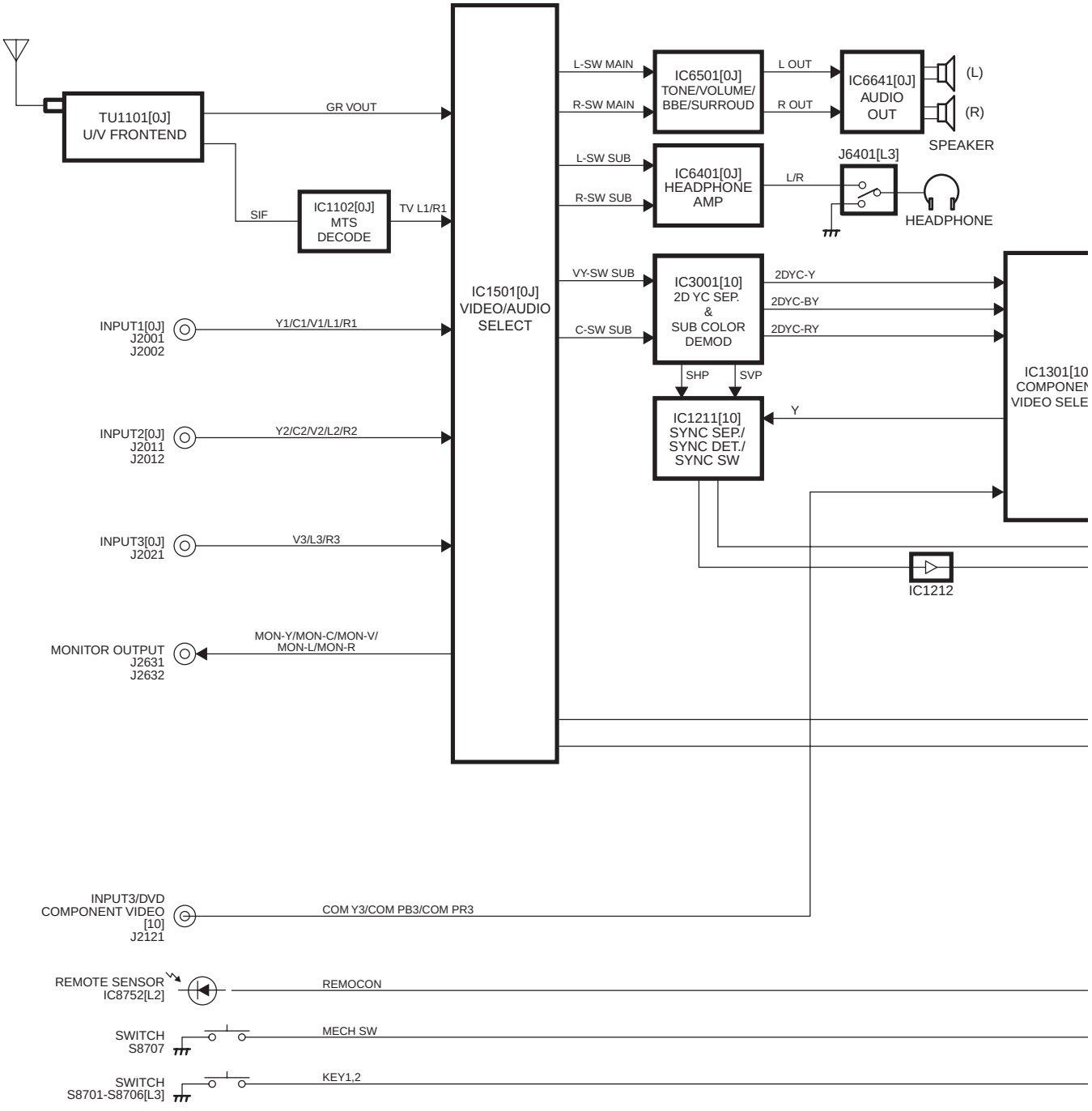
IC

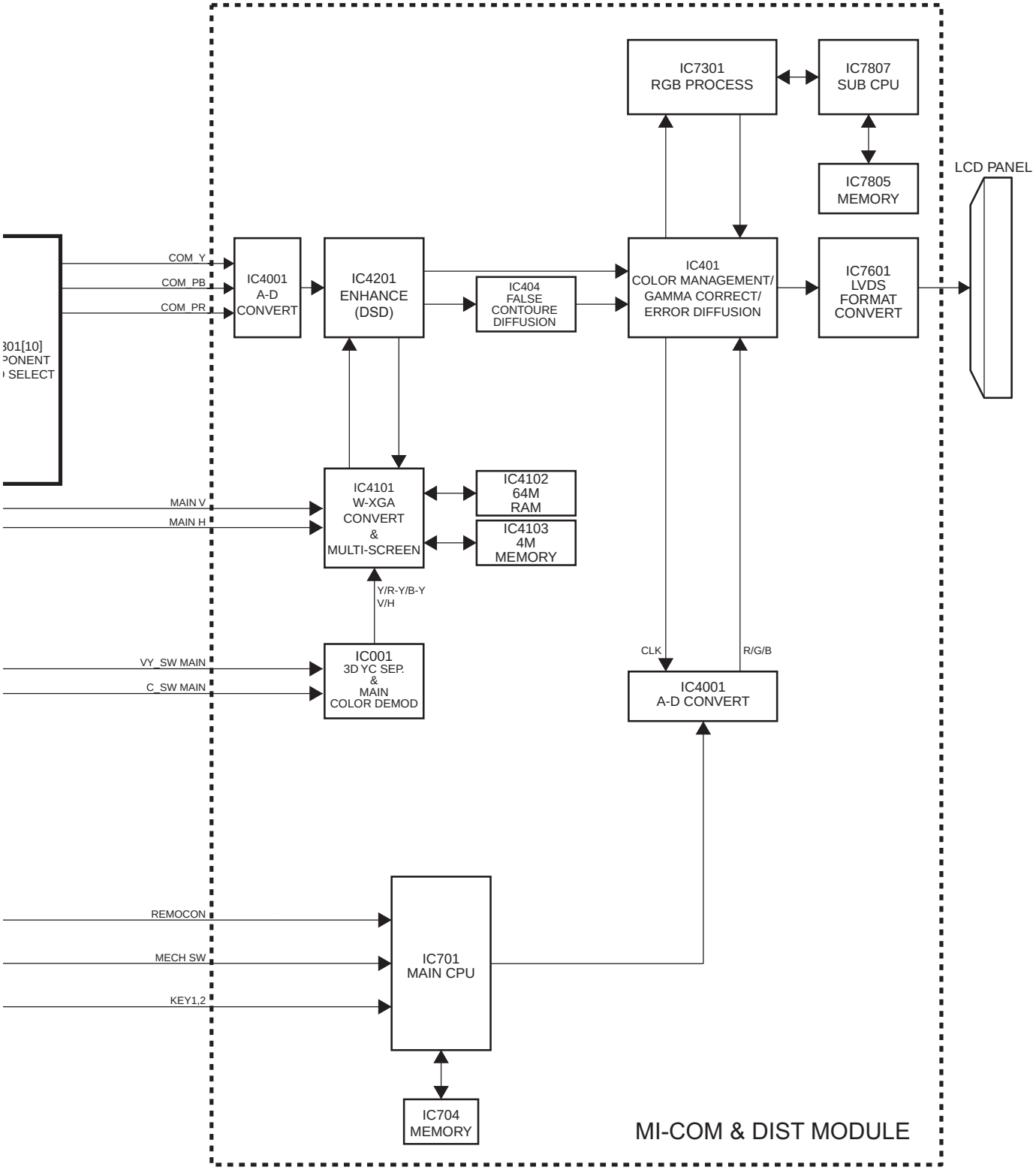


CHIP IC



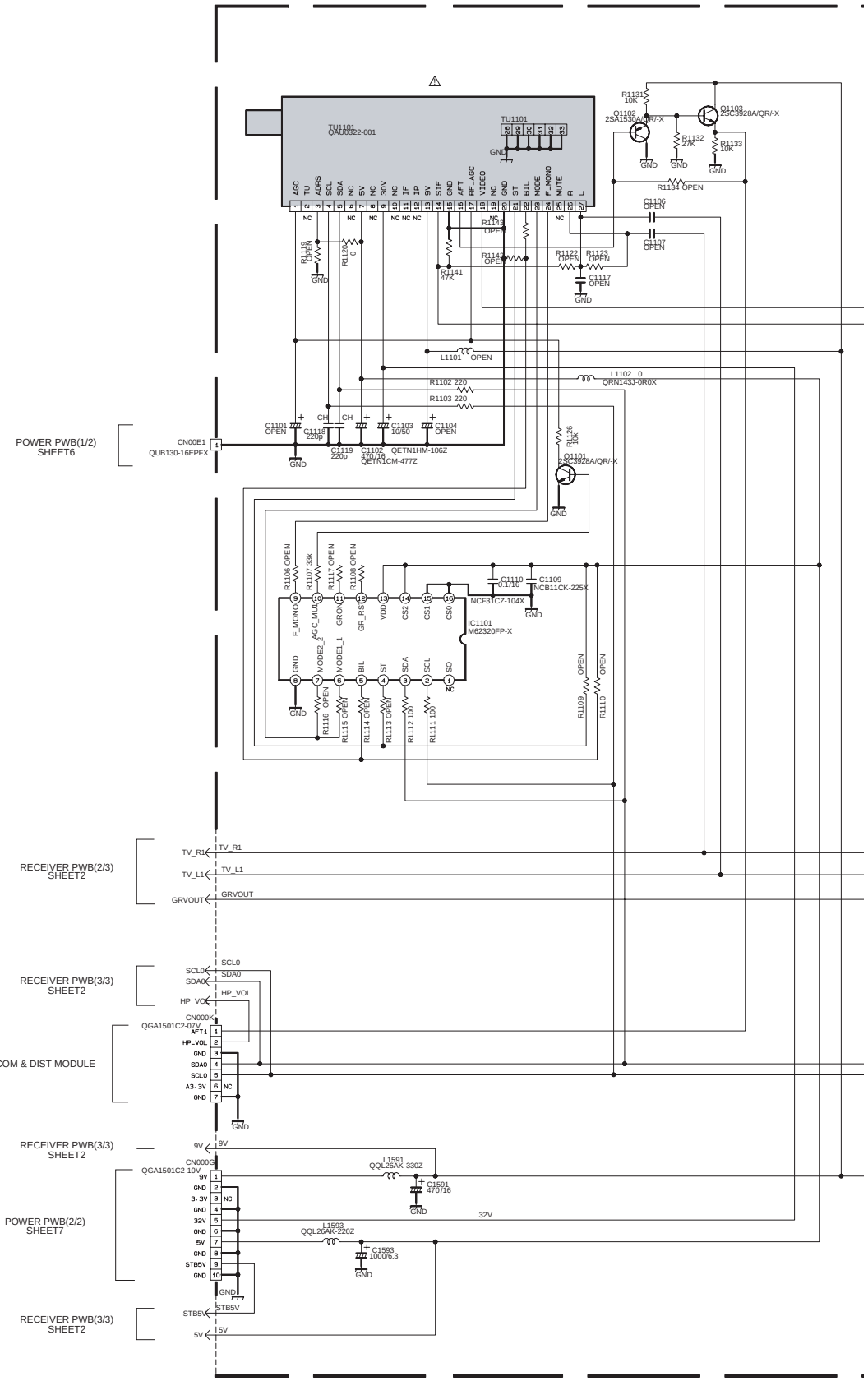
BLOCK DIAGRAM

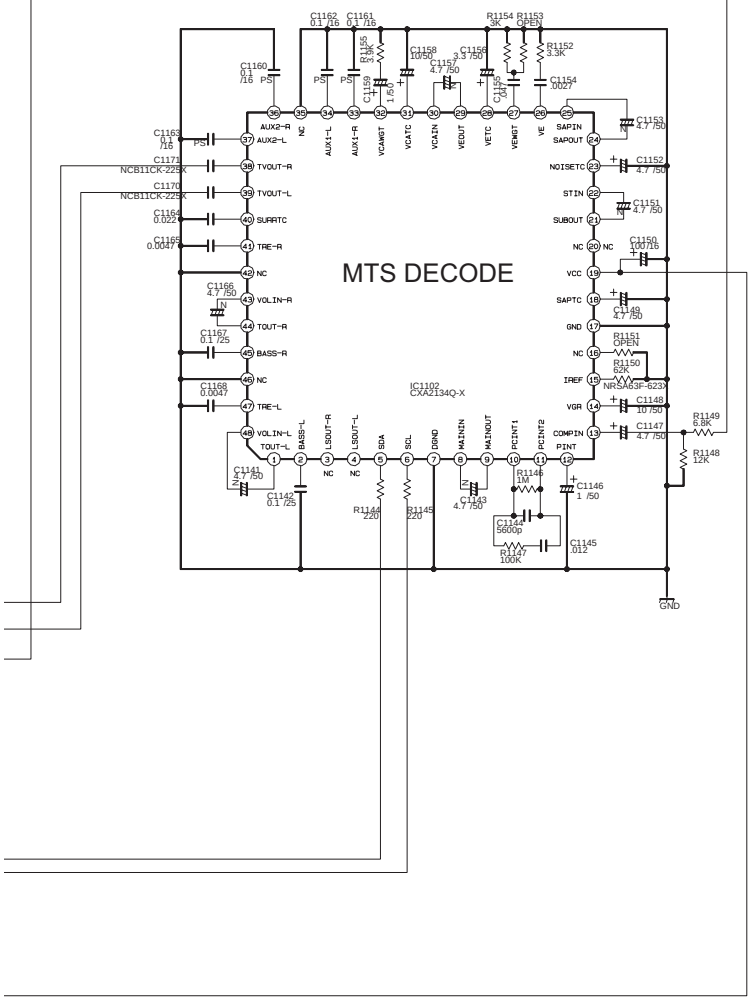



IC7301
RGB PROCESS
IC7807
SUB CPU
IC7805
MEMORY
LCD PANEL
COM_Y
COM_PB
COM_PR
IC4001
A-D
CONVERT
IC4201
ENHANCE
(DSD)
IC404
FALSE
CONTOURE
DIFFUSION
IC401
COLOR MANAGEMENT/
GAMMA CORRECT/
ERROR DIFFUSION
IC7601
LVDS
FORMAT
CONVERT
IC4101
W-XGA
CONVERT
&
MULTI-SCREEN
IC4102
64M
RAM
IC4103
4M
MEMORY
MAIN V
MAIN H
Y/R-Y/B-Y
V/H
IC001
3D YC SEP.
&
MAIN
COLOR DEMOD
VY_SW MAIN
C_SW MAIN
CLK
R/G/B
IC4001
A-D CONVERT
REMOCON
MECH SW
KEY1,2
IC701
MAIN CPU
IC704
MEMORY
MI-COM & DIST MODULE

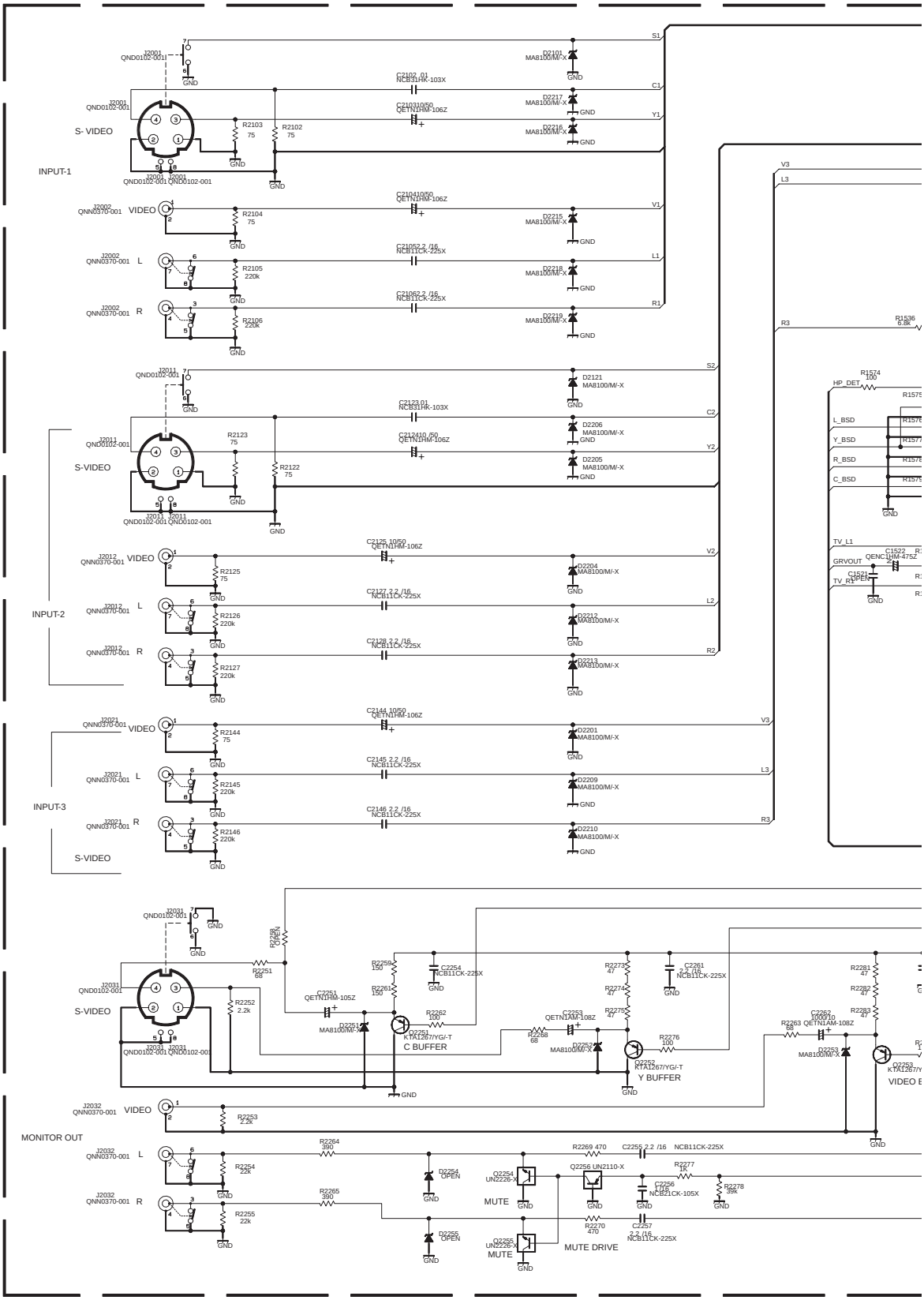
CIRCUIT DIAGRAMS

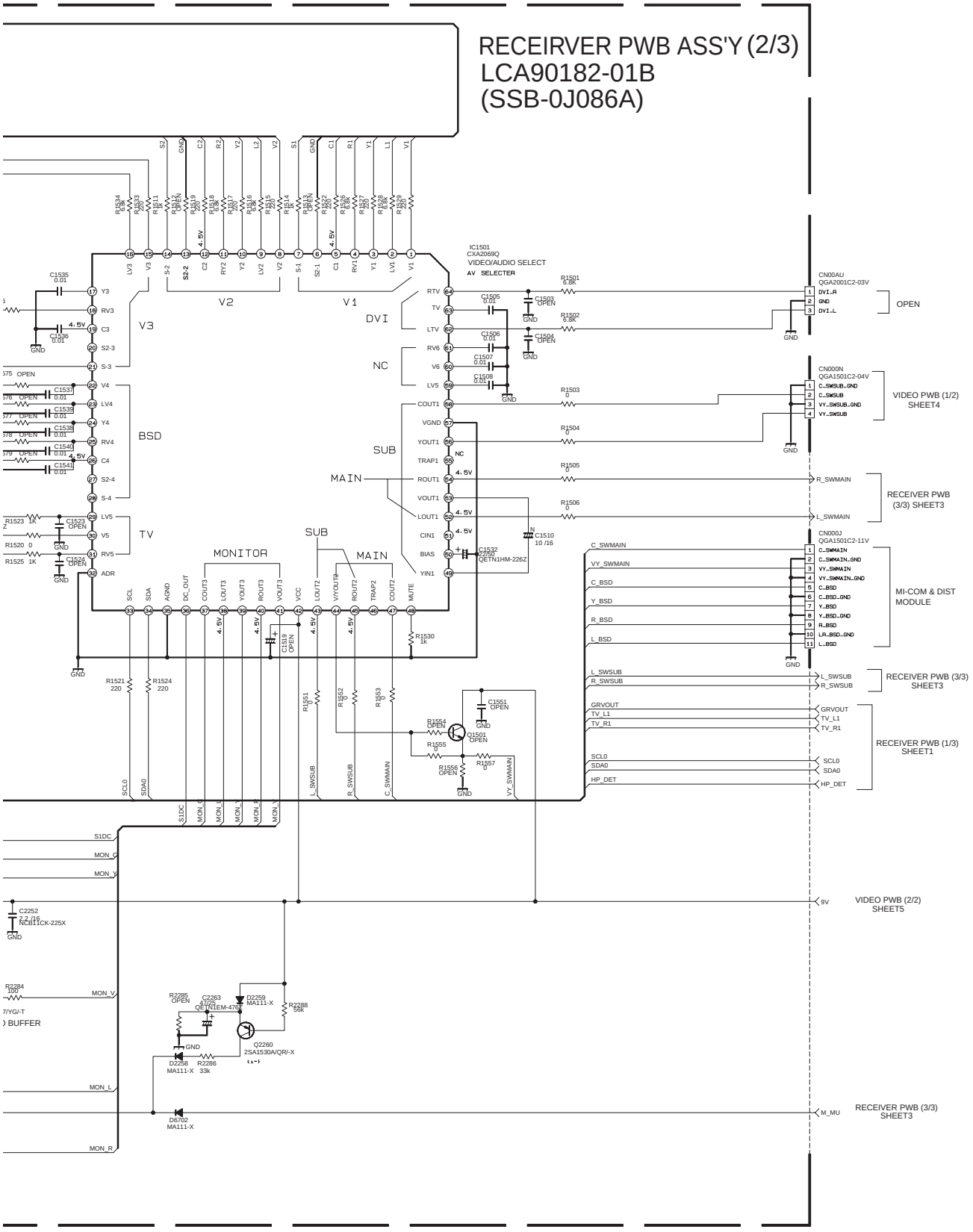
RECEIVER PWB CIRCUIT DIAGRAM (1/3) SHEET1



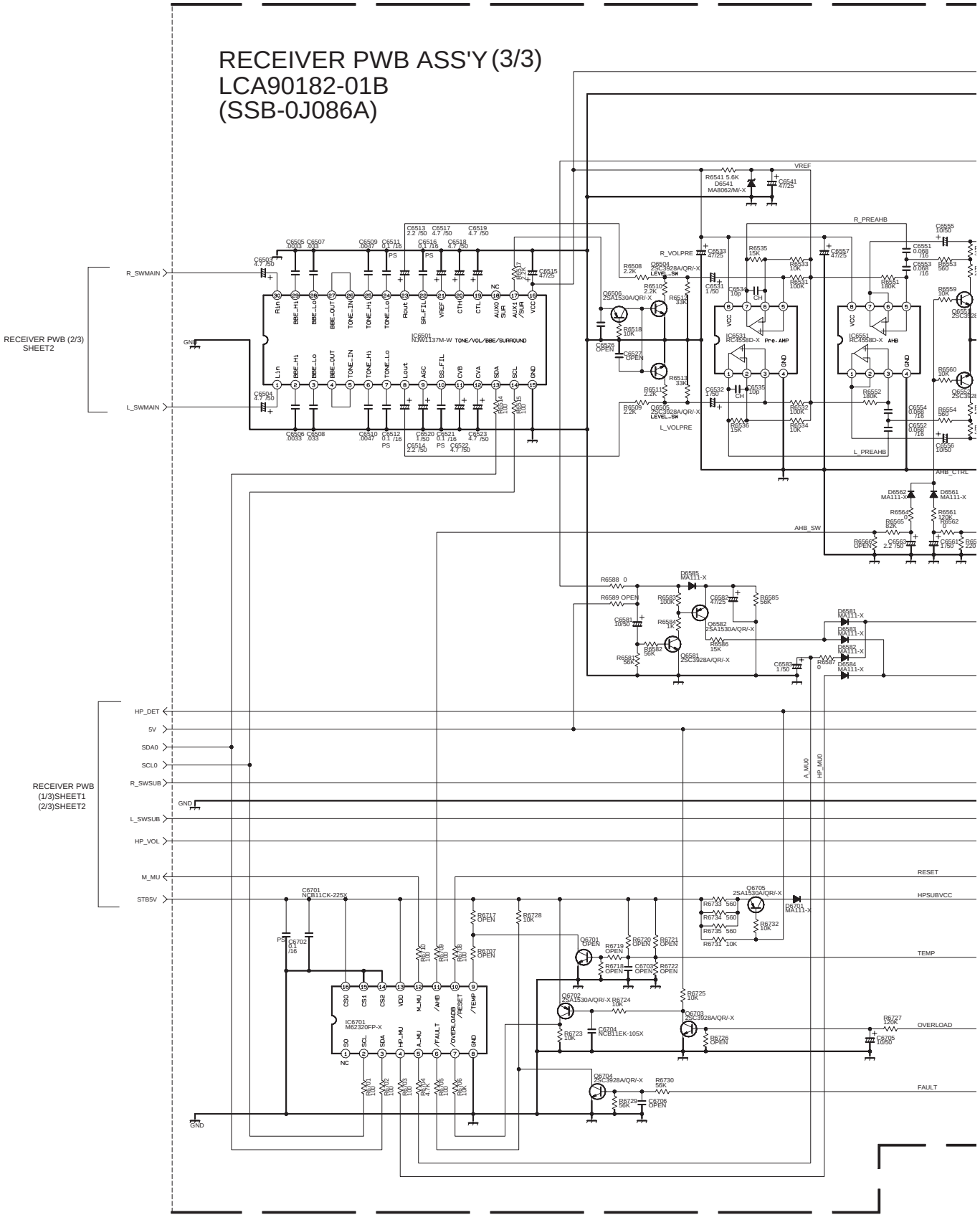


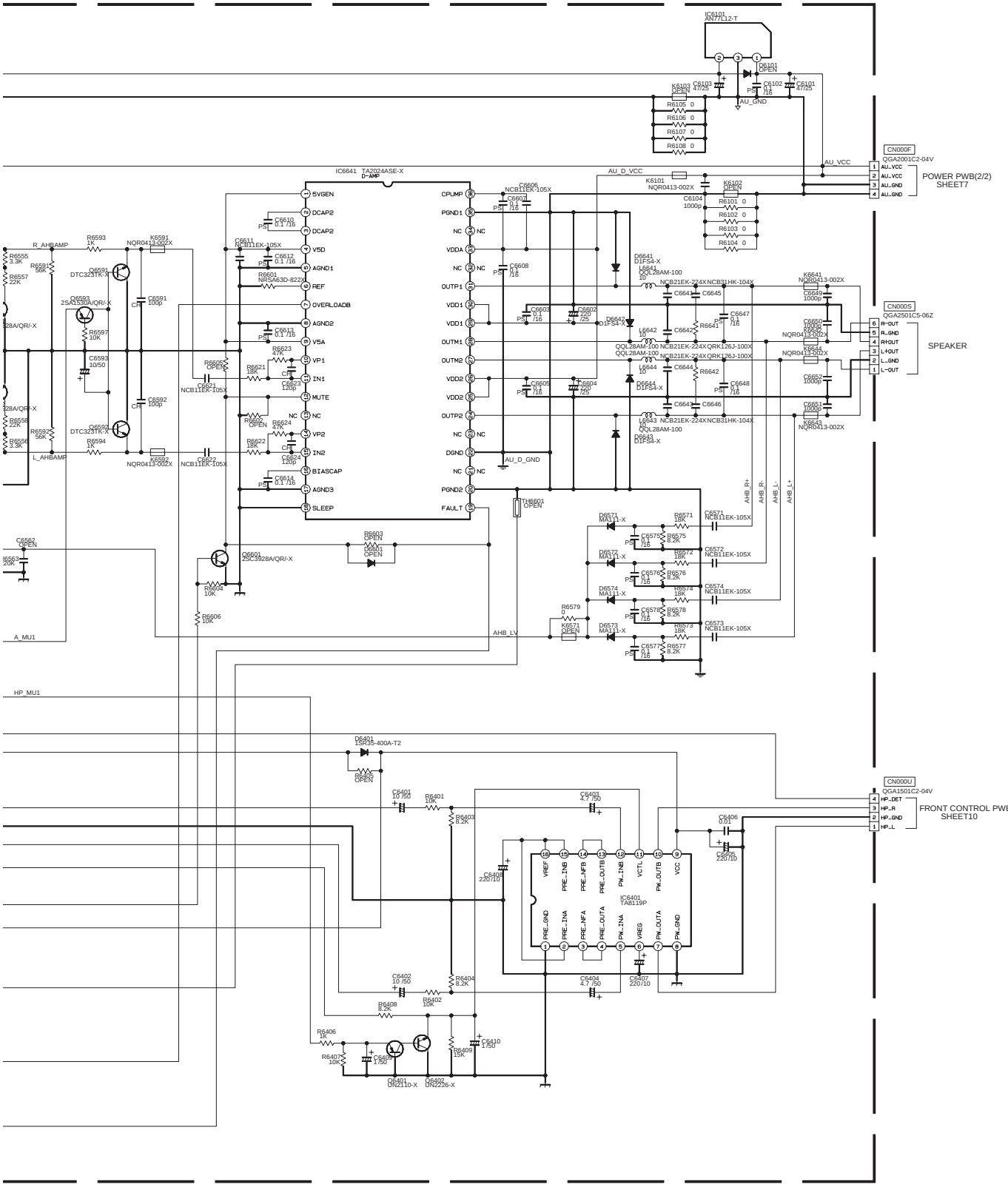
RECEIVER PWB ASS'Y (1/3)
LCA90182-01B
(SSB-0J086A)

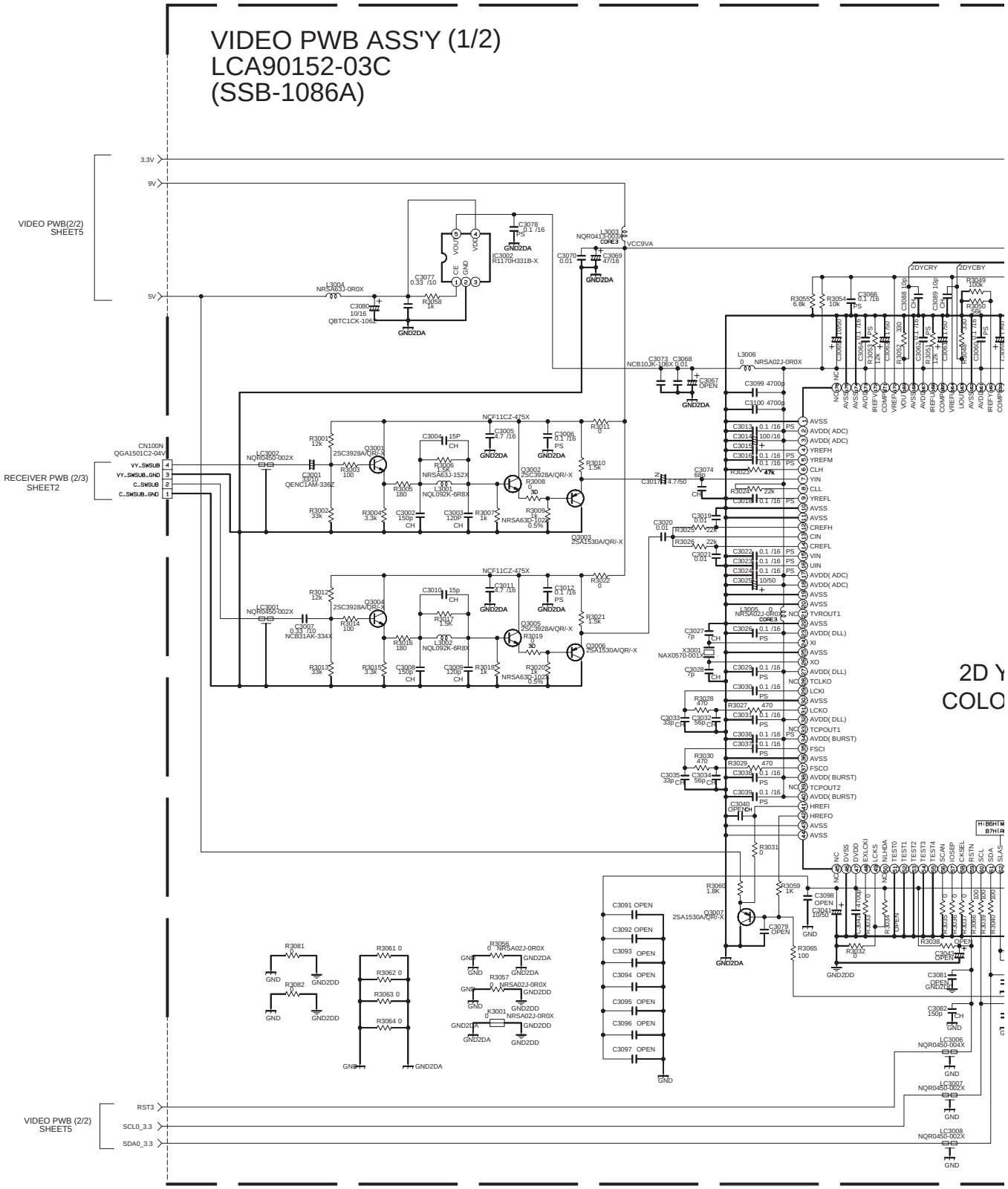

INPUT-1
S- VIDEO
VIDEO
L
R
INPUT-2
S-VIDEO
INPUT-3
S-VIDEO
MONITOR OUT
VIDEO
L
R
C BUFFER
Y BUFFER
VIDEO B
MUTE
MUTE
MUTE DRIVE
HP_DET
L_BSD
Y_BSD
R_BSD
C_BSD
TV_L1
GRVOUT
TV_R1
GND

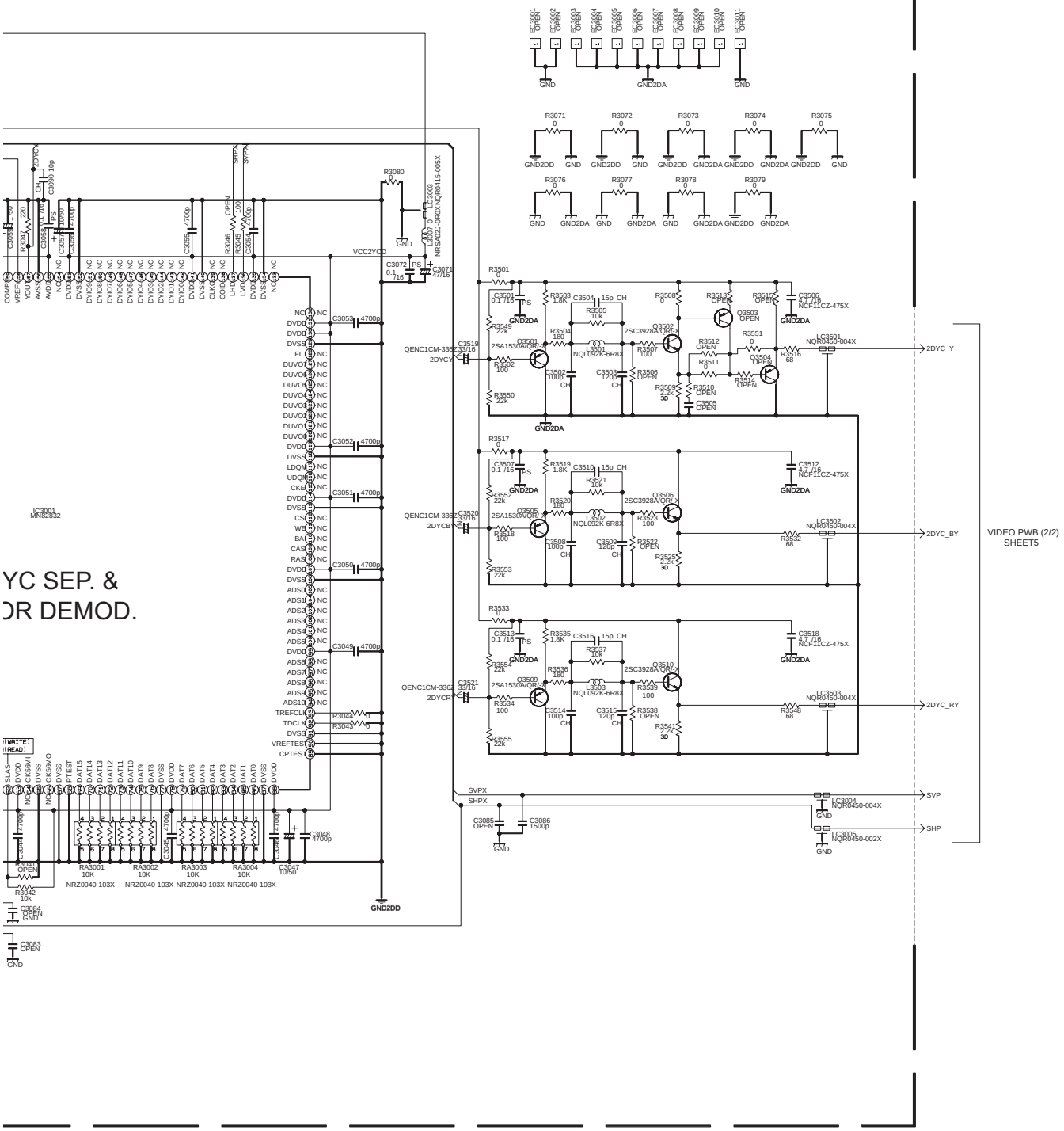

RECEIRVER PWB ASS'Y (2/3)
LCA90182-01B
(SSB-0J086A)
IC1501
CXA2069Q
VIDEO/AUDIO SELECT
AV SELECTER
V3
V2
V1
DVI
NC
BSD
SUB
MAIN
TV
MONITOR
CN00AU
QGA2001C2-03V
OPEN
CN000N
QGA1501C2-04V
VIDEO PWB (1/2)
SHEET4
R_SWMAIN
L_SWMAIN
RECEIVER PWB
(3/3) SHEET3
CN000J
QGA1501C2-11V
MI-COM & DIST
MODULE
L_SWSUB
R_SWSUB
RECEIVER PWB (3/3)
SHEET3
GRVOUT
TV_L1
TV_R1
RECEIVER PWB (1/3)
SHEET1
SCL0
SDA0
HP_DET
9V
VIDEO PWB (2/2)
SHEET5
M_MU
RECEIVER PWB (3/3)
SHEET3
C_SWMAIN
VY_SWMAIN
C_BSD
Y_BSD
R_BSD
L_BSD
S1DC
MON_C
MON_Y
MON_L
MON_R
Q1501
OPEN
Q2260
2SA1530A/QR/-X
D2259
MA111-X
D2258
MA111-X
D6702
MA111-X
GND

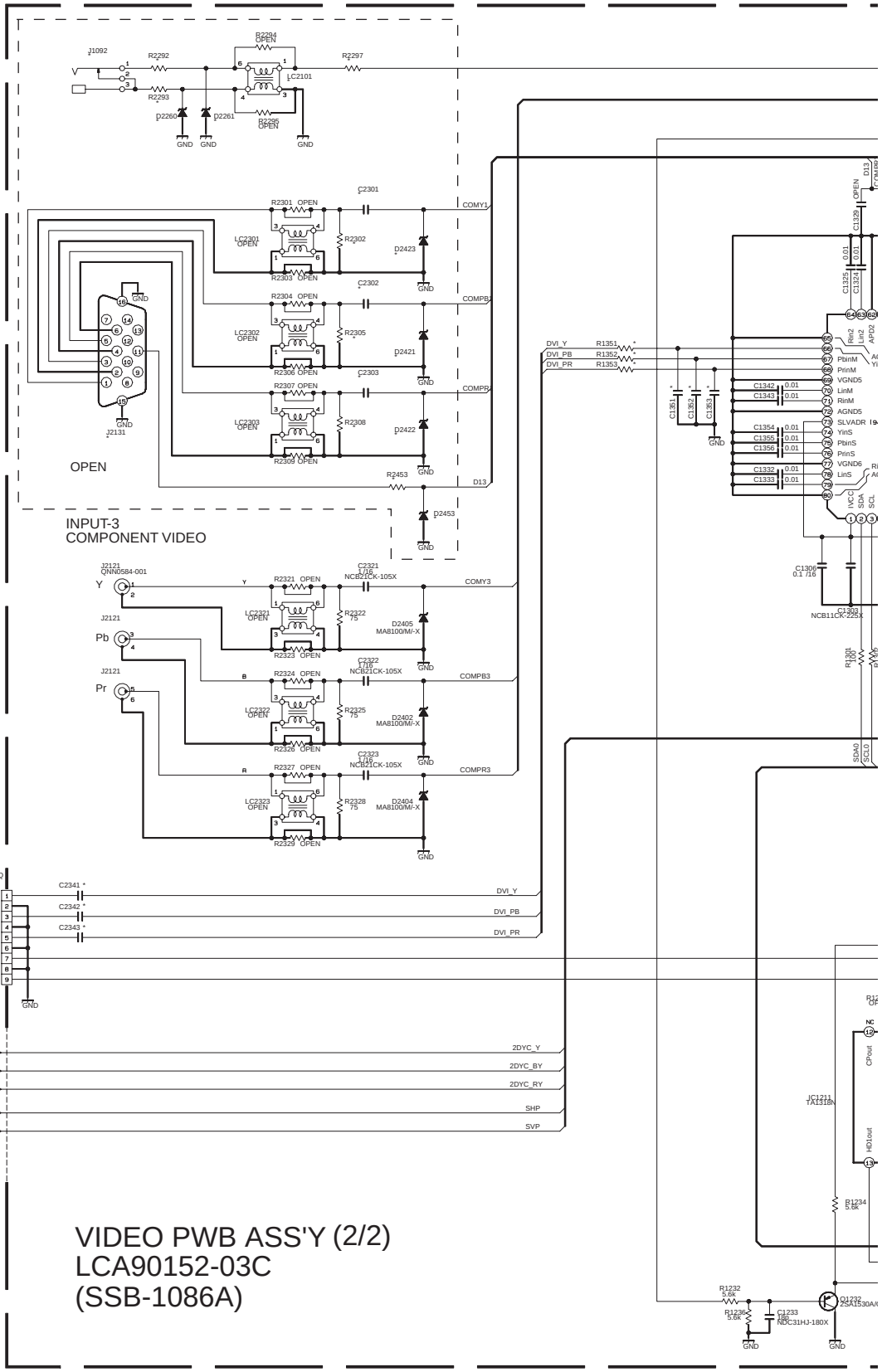
RECEIVER PWB ASS'Y (3/3)
LCA90182-01B
(SSB-0J086A)



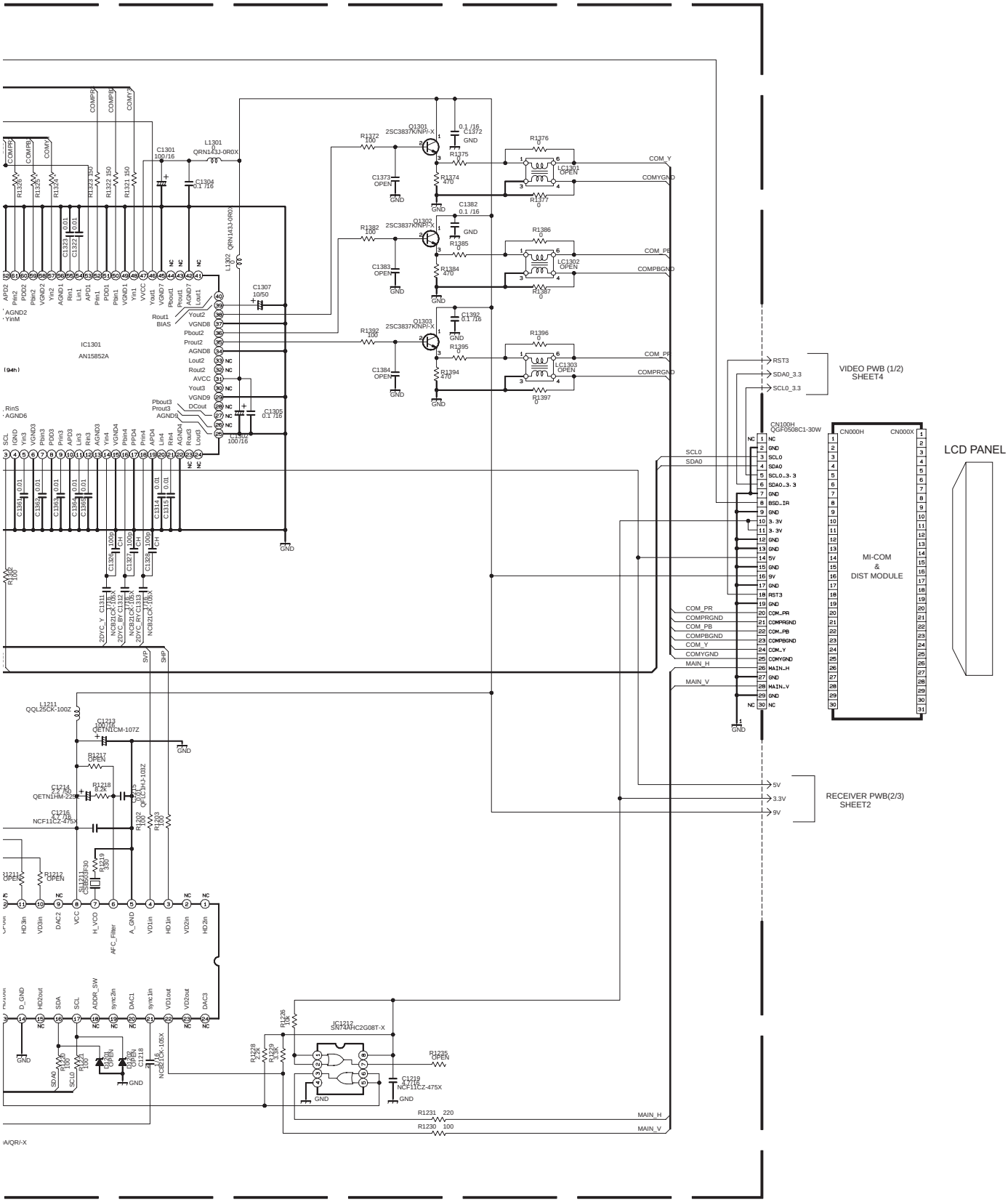

IC6101
AN7812-T
D6101
OPEN
C6102
0.1
/16
C6101
47/25
C6103
47/25
K6103
OPEN
AU_GND
R6105 0
R6106 0
R6107 0
R6108 0
CN000F
QGA2001C2-04V
AU_VCC
AU_GND
POWER PWB(2/2)
SHEET7
K6101
NQR0413-002X
K6102
OPEN
C6104
1000p
R6101 0
R6102 0
R6103 0
R6104 0
IC6641 TA2024ASE-X
D-AMP
5VGEN
DCAP2
DCAP2
V5D
AGND1
REF
OVERLOADB
AGND2
V5A
VP1
IN1
MUTE
NC
VP2
IN2
BIASCAP
AGND3
SLEEP
CPUMP
PGND1
NC
VDDA
NC
OUTP1
VDD1
VDD1
OUTM1
OUTM2
VDD2
VDD2
OUTP2
NC
DGND
NC
PGND2
FAULT
C6606
NCB11EK-105X
C6607
0.1
/16
C6608
0.1
/16
AU_D_VCC
AU_D_GND
TH6601
OPEN
R_AHBAMP
L_AHBAMP
R6593
1K
K6591
NQR0413-002X
K6592
NQR0413-002X
R6555
3.3K
R6591
56K
R6557
22K
Q6591
DTC323TK-X
Q6593
2SA1530A/QR/-X
R6597
10K
C6591
100p
C6593
10/50
C6592
100p
R6558
22K
R6592
56K
R6556
3.3K
Q6592
DTC323TK-X
R6594
1K
C6610
0.1
/16
C6611
NCB11EK-105X
C6612
0.1
/16
R6601
NRSA63D-822X
C6613
0.1
/16
R6623
47K
R6620
OPEN
C6621
NCB11EK-105X
R6621
18K
C6623
120p
R6622
18K
C6624
120p
R6624
47K
R6602
OPEN
C6614
0.1
/16
C6622
NCB11EK-105X
C6582
OPEN
R6583
20K
Q6601
2SC3928A/QR/-X
R6603
OPEN
D6601
OPEN
R6604
10K
R6606
10K
A_MU1
AHB_LV
C6609
0.1
/16
C6602
220
/25
C6603
0.1
/16
C6604
220
/25
C6605
0.1
/16
D6642
D1FS4-X
D6644
D1FS4-X
D6643
D1FS4-X
L6641
QQL28AM-100
L6642
QQL28AM-100
L6643
QQL28AM-100
L6644
10
C6641
NCB21EK-224X
C6642
NCB21EK-224X
C6643
NCB21EK-224X
C6644
NCB21EK-224X
C6645
NCB31HK-104X
C6646
NCB31HK-104X
R6641
QRK126J-100X
R6642
QRK126J-100X
C6647
0.1
/16
C6648
0.1
/16
K6641
NQR0413-002X
K6642
NQR0413-002X
K6643
NQR0413-002X
K6644
NQR0413-002X
C6649
1000p
C6650
1000p
C6652
1000p
C6651
1000p
CN000S
QGA2501C5-06Z
R-OUT
R_GND
R+OUT
L+OUT
L_GND
L-OUT
SPEAKER
AHB_R+
AHB_R-
AHB_L-
AHB_L+
D6571
MA111-X
D6572
MA111-X
D6574
MA111-X
D6573
MA111-X
R6571
18K
R6572
18K
R6574
18K
R6573
18K
R6575
8.2K
R6576
8.2K
R6578
8.2K
R6577
8.2K
C6575
0.1
/16
C6576
0.1
/16
C6578
0.1
/16
C6577
0.1
/16
C6571
NCB11EK-105X
C6572
NCB11EK-105X
C6574
NCB11EK-105X
C6573
NCB11EK-105X
R6579
0
K6571
OPEN
HP_MU1
D6401
1SR35-400A-T2
R6405
OPEN
C6401
10 /50
R6401
10K
R6403
8.2K
C6403
4.7 /50
C6406
0.01
C6405
220/10
C6408
220/10
IC6401
TA8119P
PRE_GND
PRE_INA
PRE_INB
PRE_NFA
PRE_NFB
PRE_OUTA
PRE_OUTB
PW_INA
PW_INB
VREG
VCTL
PW_OUTA
PW_OUTB
PW_GND
VCC
C6407
220/10
C6404
4.7 /50
C6402
10 /50
R6404
8.2K
R6402
10K
R6408
8.2K
R6406
1K
R6407
10K
C6409
1/50
R6409
15K
C6410
1/50
Q6401
UN2110-X
Q6402
UN2226-X
CN000U
QGA1501C2-04V
HP_DET
HP_R
HP_GND
HP_L
FRONT CONTROL PWB
SHEET10

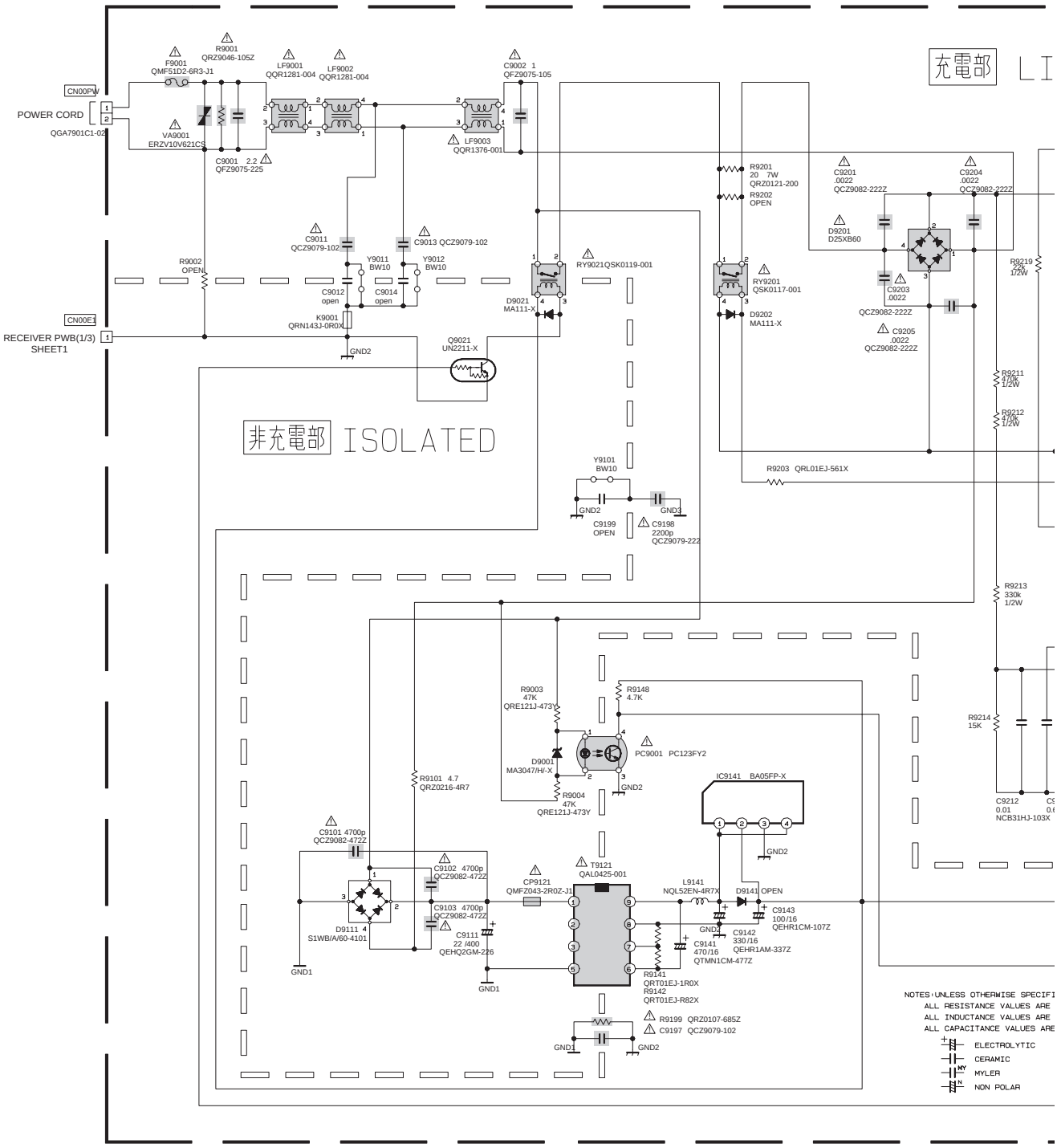

VIDEO PWB ASS'Y (1/2)
LCA90152-03C
(SSB-1086A)
VIDEO PWB(2/2) SHEET5
RECEIVER PWB (2/3) SHEET2
VIDEO PWB (2/2) SHEET5
3.3V
9V
5V
RST3
SCL0_3.3
SDA0_3.3
CN100N
QGA1501C2-04V
VY_SWSUB
VY_SWSUB_GND
C_SWSUB
C_SWSUB_GND
IC3002
R1170H331B-X
Q3001
Q3002
Q3003
Q3004
Q3005
Q3006
Q3007
2SC3928A/QR/-X
2SA1530A/QR/-X
NCF11CZ-475X
NRSA633-152X
NRSA633-102X
NQL092K-6R8X
NRSA02J-0R0X
NQR0450-002X
NQR0450-004X
NCB31AK-334X
NCB10JK-108X
QBTC1CK-106Z
QENC1AM-336Z
NAX0570-001X
2DYCRY
2DYCBY
GND2DA
GND2DD
GND
2D Y
COLO

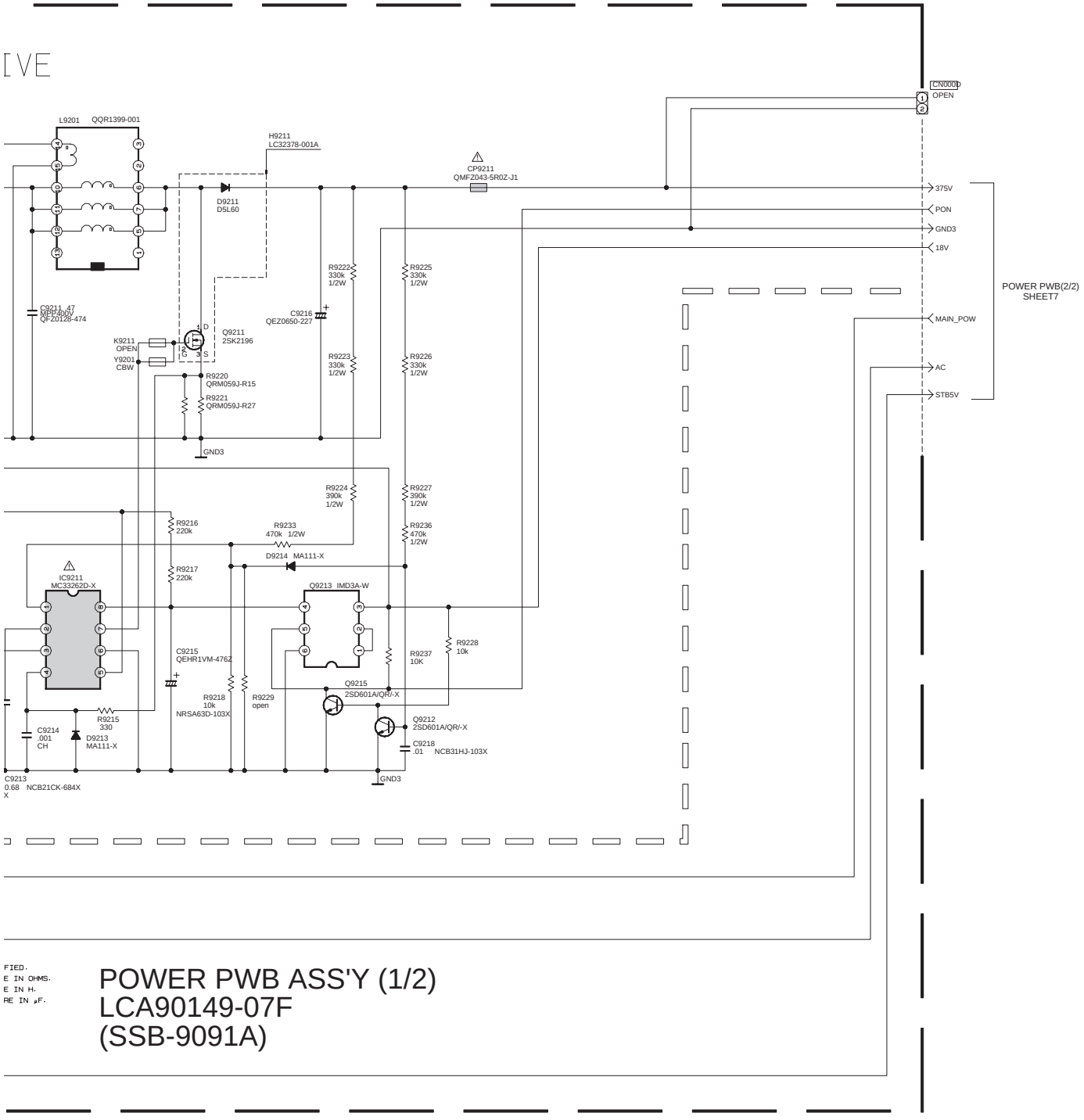

YC SEP. &
OR DEMOD.
VIDEO PWB (2/2)
SHEET5
2DYC_Y
2DYC_BY
2DYC_RY
SVP
SHP
GND2DA
GND2DD
GND
VCC2YCD
IC3001
MN662632
QENC1CM-336
2DYCY
2DYCB
2DYCR
2SA1530A/QR-X
2SC3928A/QR-X
NRS4020-0R0NXQR0415-005X
NRZ0040-103X
NQR0450-004X
NQR0450-002X
NCF11CZ-475X



	LCA90152-03C SSB-1086A
J1092	OPEN
J2131	OPEN
CN10AQ	QGA2001C1 -09V
LC2101	OPEN
C1351	OPEN
C1352	OPEN
C1353	OPEN
R1324	OPEN
R1325	OPEN
R1326	OPEN
R1351	0
R1352	0
R1353	0
D2260	OPEN
D2261	OPEN
R2292	OPEN
R2293	OPEN
R2297	OPEN
C2301	OPEN
C2302	OPEN
C2303	OPEN
C2341	NCB21CK -105X
C2342	NCB21CK -105X
C2343	NCB21CK -105X
R2302	OPEN
R2305	OPEN
R2308	OPEN
D2421	OPEN
D2422	OPEN
D2423	OPEN
D2453	OPEN
R2453	OPEN

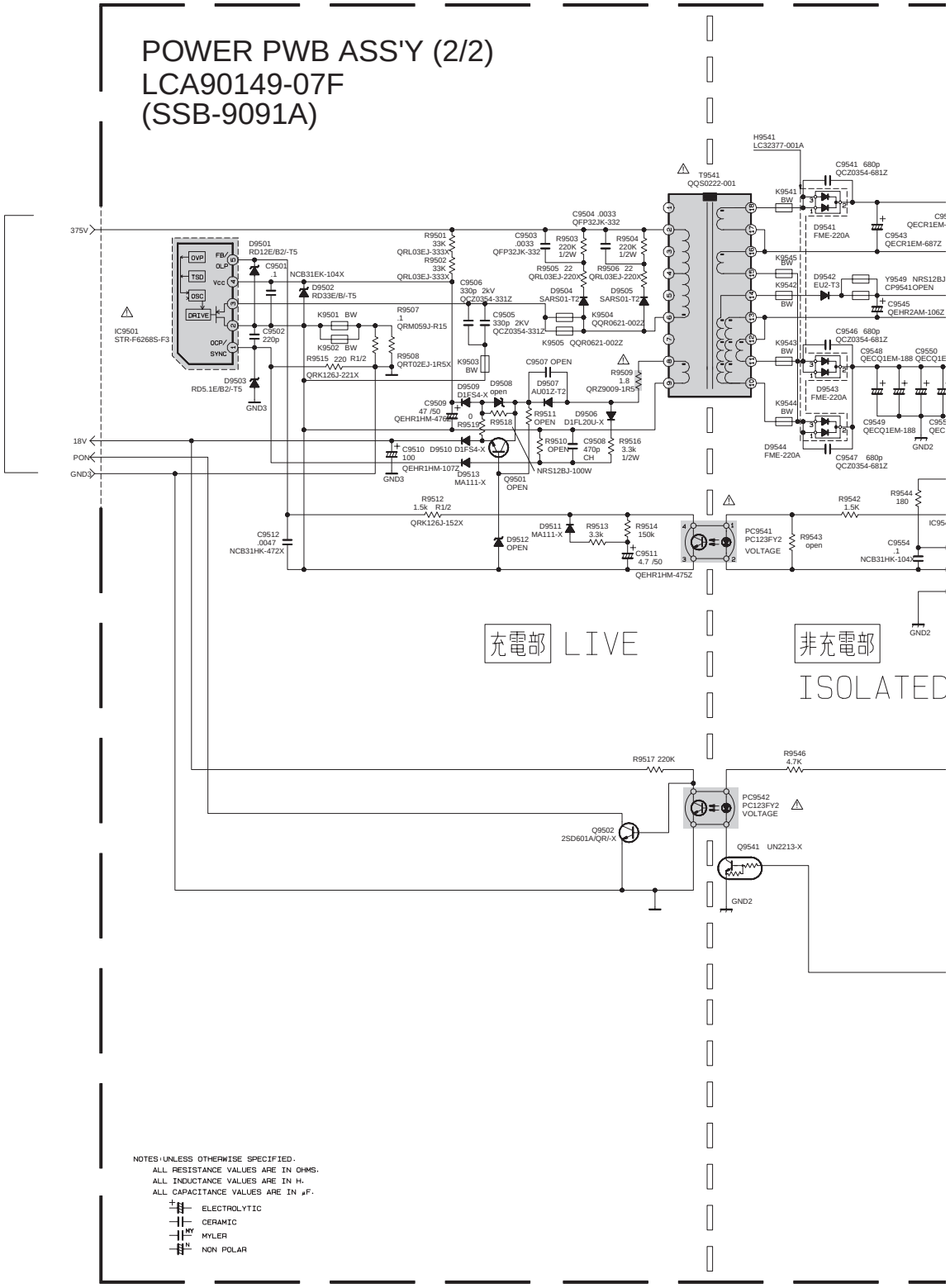

IC1301
AN15852A
Q1301
2SC3837K/NP/-X
Q1302
2SC3837K/NP/-X
Q1303
2SC3837K/NP/-X
JC1212
SN74AHC2G08T-X
CN100H
QGF0508C1-30W
CN000H
CN000X
MI-COM
&
DIST MODULE
LCD PANEL
VIDEO PWB (1/2)
SHEET4
RECEIVER PWB(2/3)
SHEET2
COM_Y
COMYGND
COM_PB
COMPBGND
COM_PR
COMPRGND
MAIN_H
MAIN_V
SCL0
SDA0
RST3
SDA0_3.3
SCL0_3.3
5V
3.3V
9V
GND

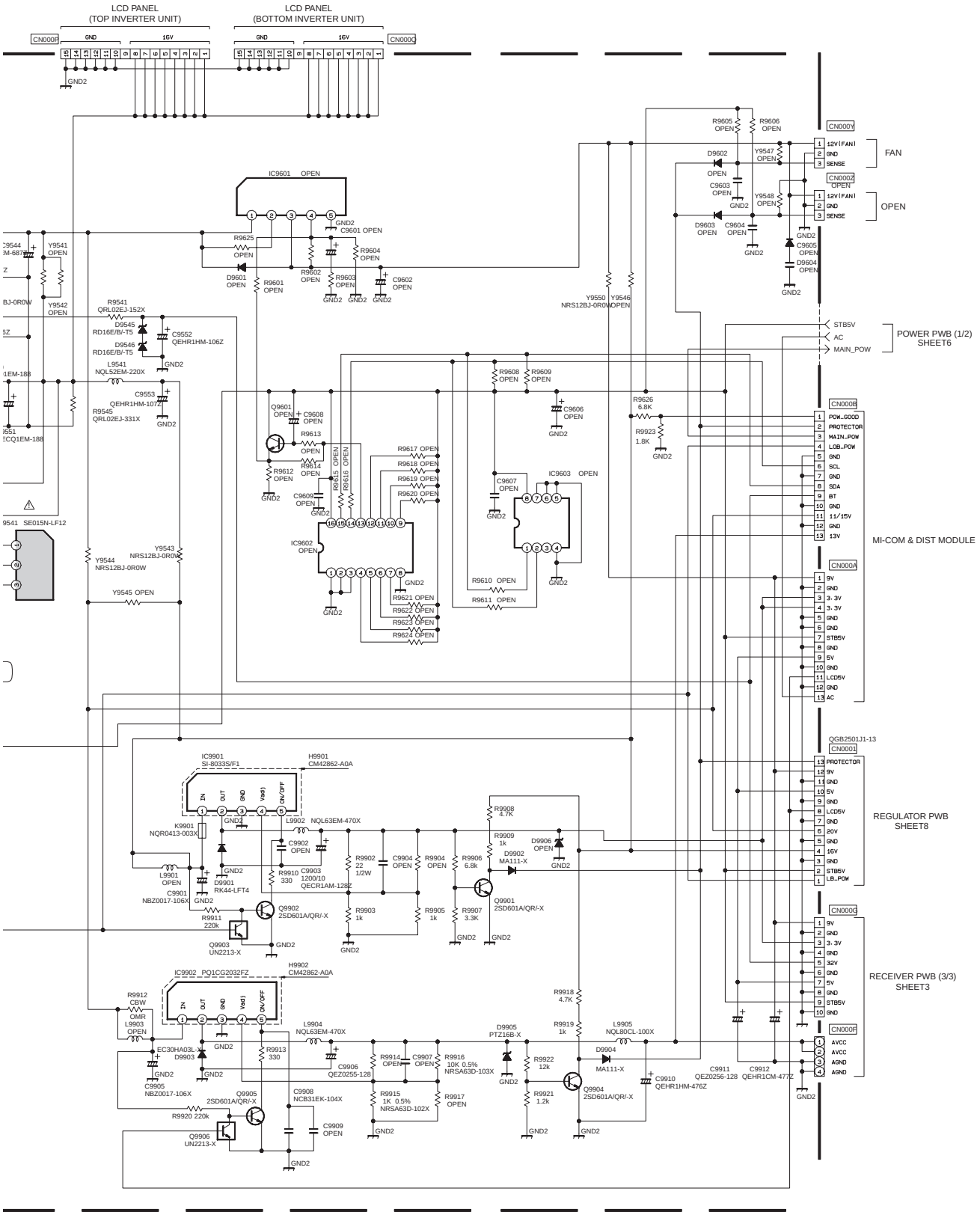

充電部
非充電部 ISOLATED
CN00PW
POWER CORD
QGA7901C1-02
F9001 QMF51D2-6R3-J1
R9001 QRZ9046-105Z
VA9001 ERZV10V621CS
C9001 2.2 QFZ9075-225
LF9001 QQR1281-004
LF9002 QQR1281-004
C9002 1 QFZ9075-105
LF9003 QQR1376-001
CN00E1
RECEIVER PWB(1/3) SHEET1
R9002 OPEN
C9011 QCZ9079-102
C9013 QCZ9079-102
Y9011 BW10
Y9012 BW10
C9012 open
C9014 open
K9001 QRN143J-0R0X
GND2
Q9021 UN2211-X
D9021 MA111-X
RY9021QSK0119-001
R9201 20 7W QRZ0121-200
R9202 OPEN
RY9201 QSK0117-001
D9202 MA111-X
C9201 .0022 QCZ9082-222Z
C9204 .0022 QCZ9082-222Z
D9201 D25XB60
C9203 .0022 QCZ9082-222Z
C9205 .0022 QCZ9082-222Z
R9219 .25K 1/2W
R9211 47K 1/2W
R9212 47K 1/2W
R9203 QRL01EJ-561X
Y9101 BW10
GND3
C9199 OPEN
C9198 2200p QCZ9079-222
R9213 330k 1/2W
R9214 15K
C9212 0.01 NCB31HJ-103X
R9003 47K QRE121J-473Y
R9148 4.7K
D9001 MA3047/H/-X
PC9001 PC123FY2
R9004 47K QRE121J-473Y
R9101 4.7 QRZ0216-4R7
IC9141 BA05FP-X
C9101 4700p QCZ9082-472Z
C9102 4700p QCZ9082-472Z
C9103 4700p QCZ9082-472Z
D9111 S1WB/A/60-4101
C9111 22 /400 QEHQ2GM-226
GND1
CP9121 QMFZ043-2R0Z-J1
T9121 QAL0425-001
L9141 NQL52EN-4R7X
D9141 OPEN
C9143 100 /16 QEHR1CM-107Z
C9142 330 /16 QEHR1AM-337Z
C9141 470 /16 QTMN1CM-477Z
R9141 QRT01EJ-1R0X
R9142 QRT01EJ-R82X
R9199 QRZ0107-685Z
C9197 QCZ9079-102
NOTES:UNLESS OTHERWISE SPECIFI
ALL RESISTANCE VALUES ARE
ALL INDUCTANCE VALUES ARE
ALL CAPACITANCE VALUES ARE
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR



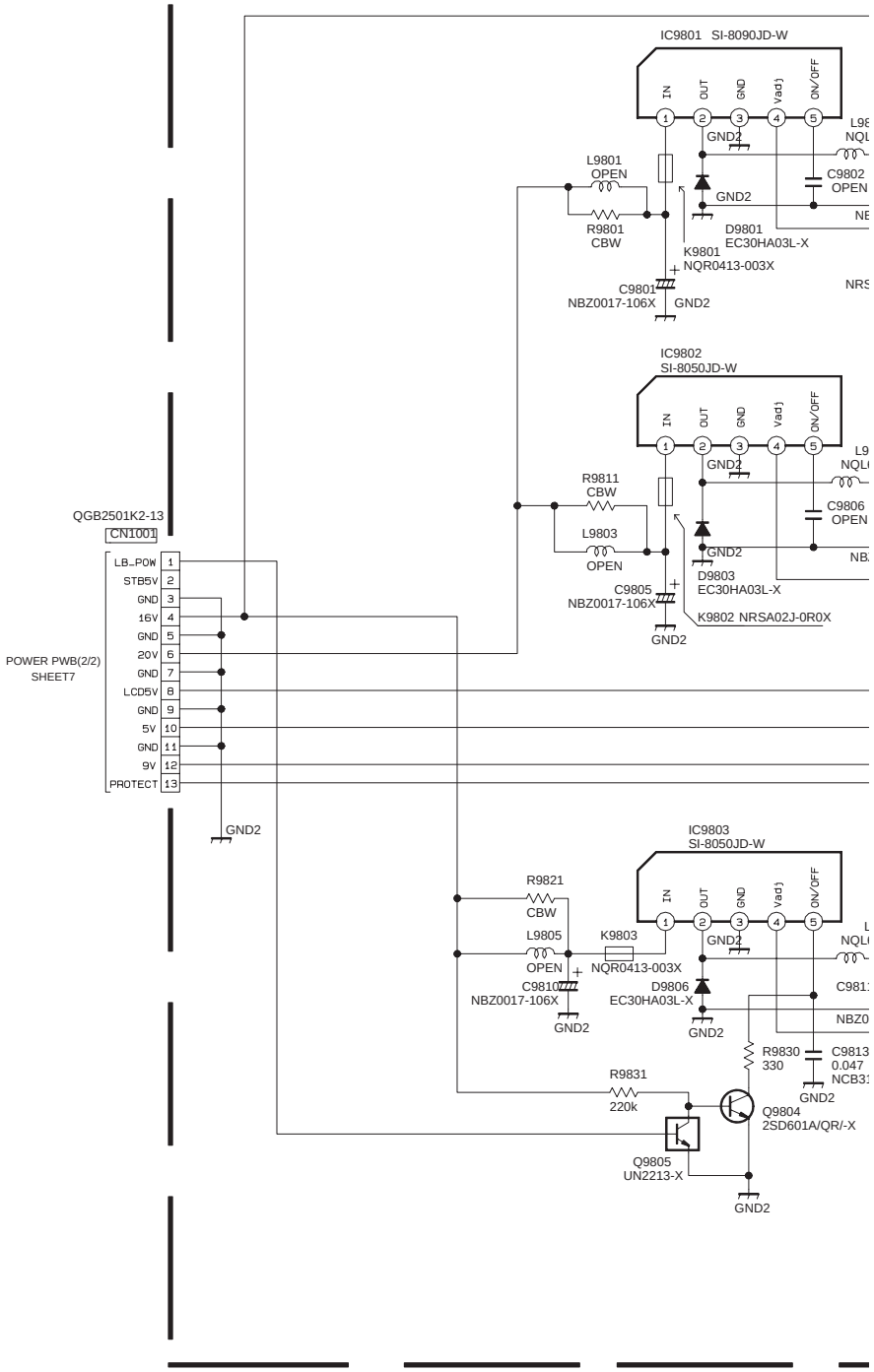
FIED.
E IN OHMS.
E IN H.
RE IN μF.

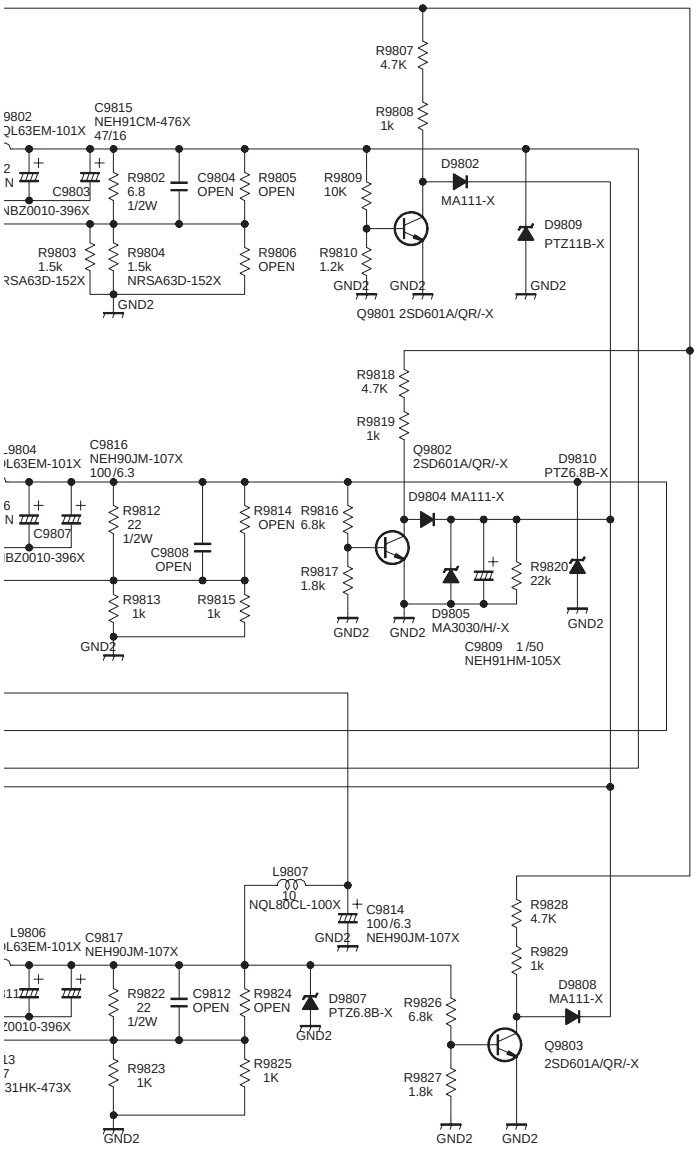
POWER PWB ASS'Y (1/2)
LCA90149-07F
(SSB-9091A)


POWER PWB ASS'Y (2/2)
LCA90149-07F
(SSB-9091A)
POWER PWB (1/2)
SHEET6
375V
18V
PON
GND3
IC9501
STR-F6268S-F3
OVP
TSD
OSC
DRIVE
OCP/
SYNC
FB/
OLP
Vcc
D9501
RD12E/B2/-T5
C9501
1
NCB31EK-104X
D9502
RD33E/B/-T5
D9503
RD5.1E/B2/-T5
C9502
220p
K9501 BW
K9502 BW
R9507
.1
QRM059J-R15
R9515 220 R1/2
R9508
QRT02EJ-1R5X
QRK126J-221X
R9501
33K
QRL03EJ-333X
R9502
33K
QRL03EJ-333X
C9506
330p 2kV
QCZ0354-331Z
C9505
330p 2KV
QCZ0354-331Z
K9503
BW
C9503
.0033
QFP32JK-332
R9503
220K
1/2W
R9505 22
QRL03EJ-220X
D9504
SARS01-T2
C9504 .0033
QFP32JK-332
R9504
220K
1/2W
R9506 22
QRL03EJ-220X
D9505
SARS01-T2
K9504
QQR0621-002Z
K9505 QQR0621-002Z
C9507 OPEN
D9507
AU01Z-T2
R9509
1.8
QRZ9009-1R5
D9509
D1FS4-X
D9508
open
C9509
47 /50
QEHR1HM-476Z
R9511
OPEN
D9506
D1FL20U-X
R9510
OPEN
C9508
470p
CH
R9516
3.3k
1/2W
C9510 D9510 D1FS4-X
100
QEHR1HM-107Z
D9513
MA111-X
R9518
NRS12BJ-100W
Q9501
OPEN
R9512
1.5k R1/2
QRK126J-152X
C9512
.0047
NCB31HK-472X
D9511
MA111-X
R9513
3.3k
R9514
150k
C9511
4.7 /50
QEHR1HM-475Z
PC9541
PC123FY2
VOLTAGE
R9543
open
R9542
1.5K
R9544
180
C9554
.1
NCB31HK-104X
H9541
LC32377-001A
T9541
QQS0222-001
C9541 680p
QCZ0354-681Z
K9541
BW
D9541
FME-220A
C9543
QECR1EM-687Z
K9545
BW
K9542
BW
D9542
EU2-T3
Y9549 NRS12BJ
CP9541OPEN
C9545
QEHR2AM-106Z
C9546 680p
QCZ0354-681Z
K9543
BW
C9548
QECQ1EM-188
C9550
QECQ1E
D9543
FME-220A
K9544
BW
C9549
QECQ1EM-188
D9544
FME-220A
C9547 680p
QCZ0354-681Z
GND2
充電部 LIVE
非充電部
ISOLATED
R9517 220K
R9546
4.7K
PC9542
PC123FY2
VOLTAGE
Q9502
2SD601A/QR/-X
Q9541 UN2213-X
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.
ELECTROLYTIC
CERAMIC
MY MYLER
N NON POLAR


LCD PANEL
(TOP INVERTER UNIT)
LCD PANEL
(BOTTOM INVERTER UNIT)
CN000F
CN000Q
GND
16V
GND2
CN000Y
12V(FAN)
GND
SENSE
FAN
CN000Z
OPEN
IC9601 OPEN
C9601 OPEN
R9625 OPEN
R9602 OPEN
R9603 OPEN
R9604 OPEN
C9602 OPEN
D9601 OPEN
R9601 OPEN
R9605 OPEN
R9606 OPEN
D9602 OPEN
Y9547 OPEN
Y9548 OPEN
C9603 OPEN
D9603 OPEN
C9604 OPEN
C9605 OPEN
D9604 OPEN
Y9550 Y9546 NRS12BJ-0R0X OPEN
Y9541 OPEN
Y9542 OPEN
R9541 QRL02EJ-152X
D9545 RD16E/B/-T5
D9546 RD16E/B/-T5
C9552 QEHR1HM-106Z
L9541 NQL52EM-220X
C9553 QEHR1HM-107Z
R9545 QRL02EJ-331X
STB5V
AC
MAIN_POW
POWER PWB (1/2)
SHEET6
R9608 OPEN
R9609 OPEN
C9606 OPEN
R9626 6.8K
R9923 1.8K
Q9601 OPEN
C9608 OPEN
R9613 OPEN
R9614 OPEN
R9612 OPEN
C9609 OPEN
R9615 OPEN
R9616 OPEN
R9617 OPEN
R9618 OPEN
R9619 OPEN
R9620 OPEN
IC9602 OPEN
C9607 OPEN
IC9603 OPEN
R9610 OPEN
R9611 OPEN
R9621 OPEN
R9622 OPEN
R9623 OPEN
R9624 OPEN
CN000B
POW_GOOD
PROTECTOR
MAIN_POW
LOB_POW
GND
SCL
GND
SDA
BT
GND
11/15V
GND
13V
MI-COM & DIST MODULE
CN000A
9V
GND
3.3V
3.3V
GND
GND
STB5V
GND
5V
GND
LCD5V
GND
AC
Y9544 NRS12BJ-0R0X
Y9543 NRS12BJ-0R0X
Y9545 OPEN
QGB2501J1-13
CN0001
PROTECTOR
9V
GND
5V
GND
LCD5V
GND
20V
GND
16V
GND
STB5V
LB_POW
REGULATOR PWB
SHEET8
IC9901
SI-8033S/F1
H9901
CM42862-A0A
IN
OUT
GND
Vadj
ON/OFF
L9902 NQL63EM-470X
K9901 NQR0413-003X
C9902 OPEN
L9901 OPEN
D9901 RK44-LFT4
C9901 NBZ0017-106X
R9910 330
C9903 1200/10 QECR1AM-128Z
R9902 22 1/2W
C9904 OPEN
R9904 OPEN
R9906 6.8k
R9909 1k
D9906 OPEN
D9902 MA111-X
R9908 4.7K
Q9901 2SD601A/QR/-X
R9907 3.3K
R9903 1k
R9905 1k
R9911 220k
Q9902 2SD601A/QR/-X
Q9903 UN2213-X
CN000C
9V
GND
3.3V
GND
32V
GND
5V
GND
STB5V
GND
RECEIVER PWB (3/3)
SHEET3
IC9902 PQ1CG2032FZ
H9902
CM42862-A0A
R9912 CBW OMR
L9903 OPEN
L9904 NQL63EM-470X
EC30HA03L-X D9903
R9913 330
C9906 QEZ0255-128
R9914 OPEN
C9907 OPEN
R9916 10K 0.5% NRSA63D-103X
R9915 1K 0.5% NRSA63D-102X
R9917 OPEN
C9905 NBZ0017-106X
R9920 220k
Q9905 2SD601A/QR/-X
Q9906 UN2213-X
C9908 NCB31EK-104X
C9909 OPEN
D9905 PTZ16B-X
R9922 12k
R9921 1.2k
Q9904 2SD601A/QR/-X
R9918 4.7K
R9919 1k
L9905 NQL80CL-100X
D9904 MA111-X
C9910 QEHR1HM-476Z
C9911 QEZ0256-128
C9912 QEHR1CM-477Z
CN000F
AVCC
AVCC
AGND
AGND

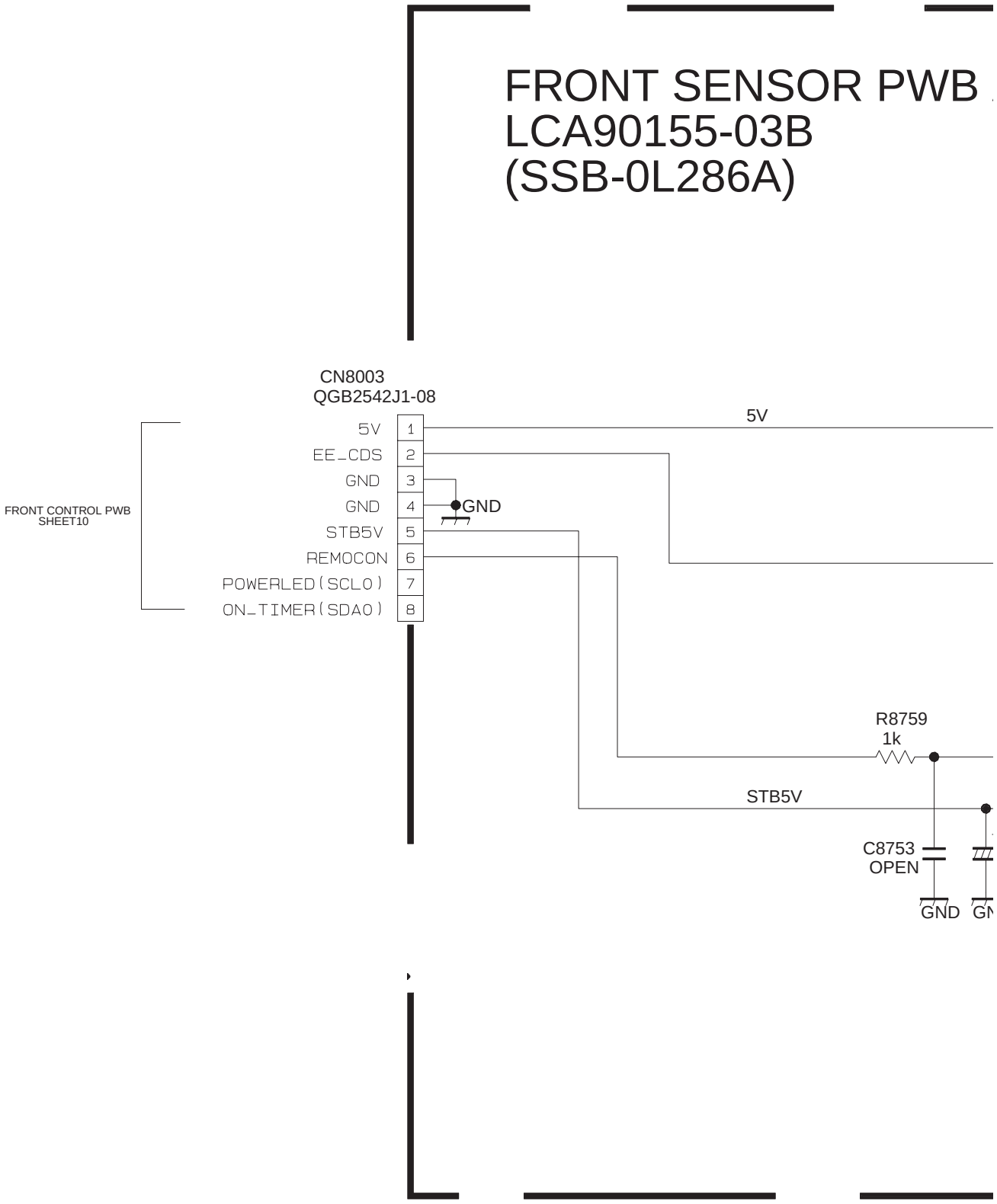
REGULATOR PWB ASS'Y
LCA90150-07D
(SSB-9191A)



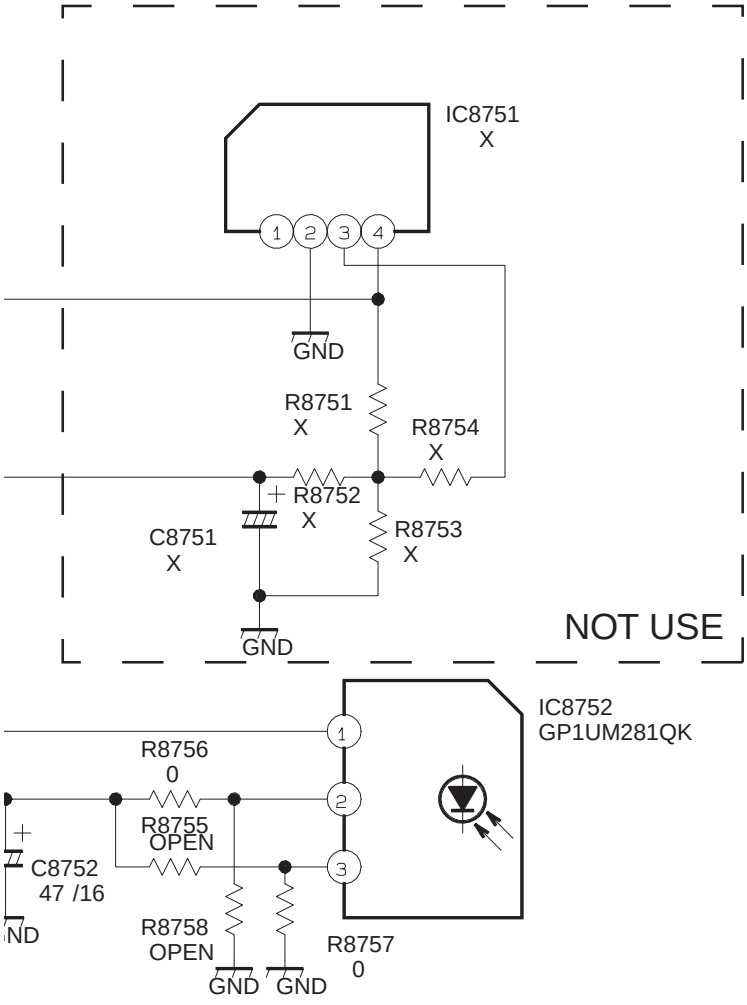


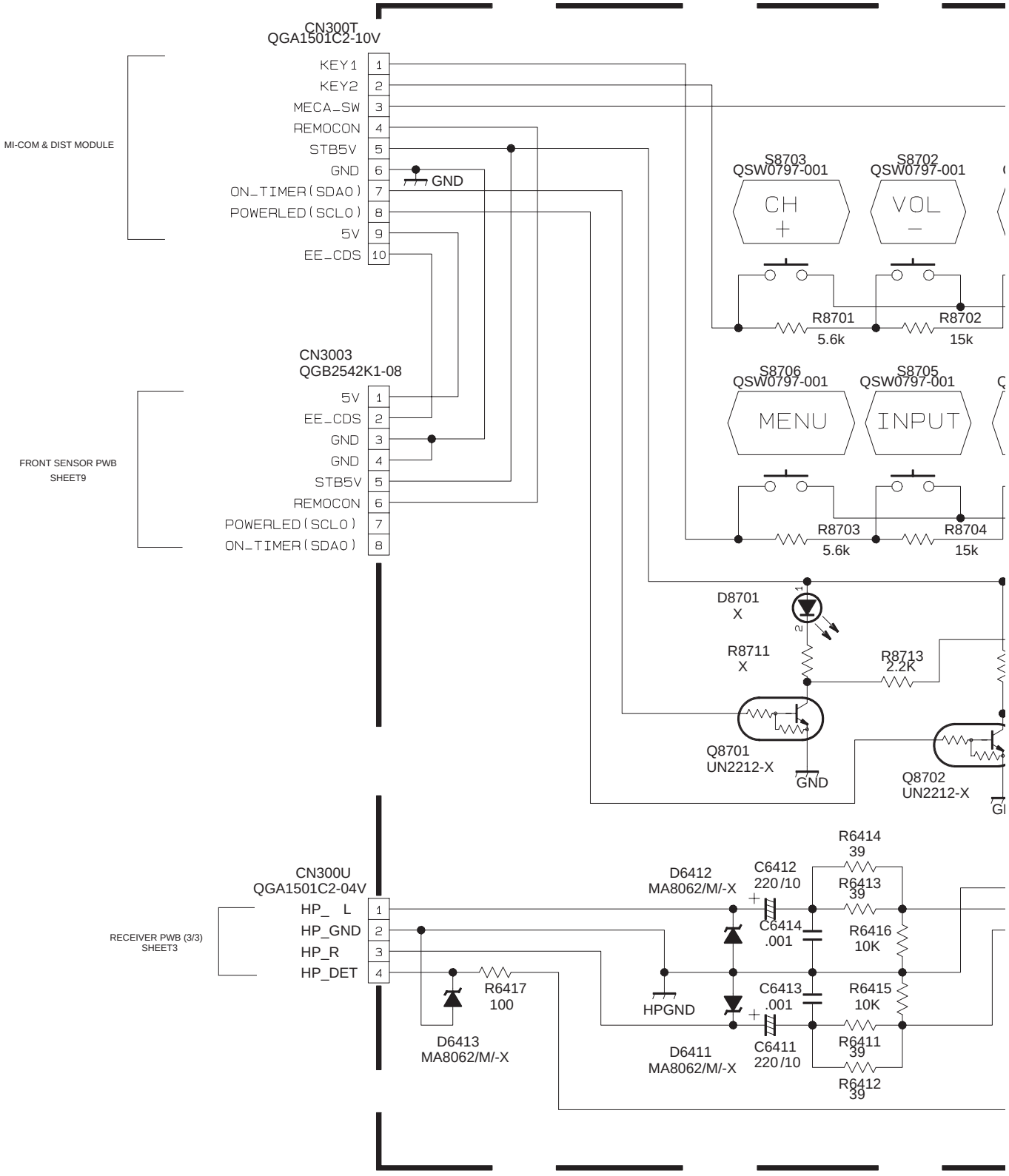
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

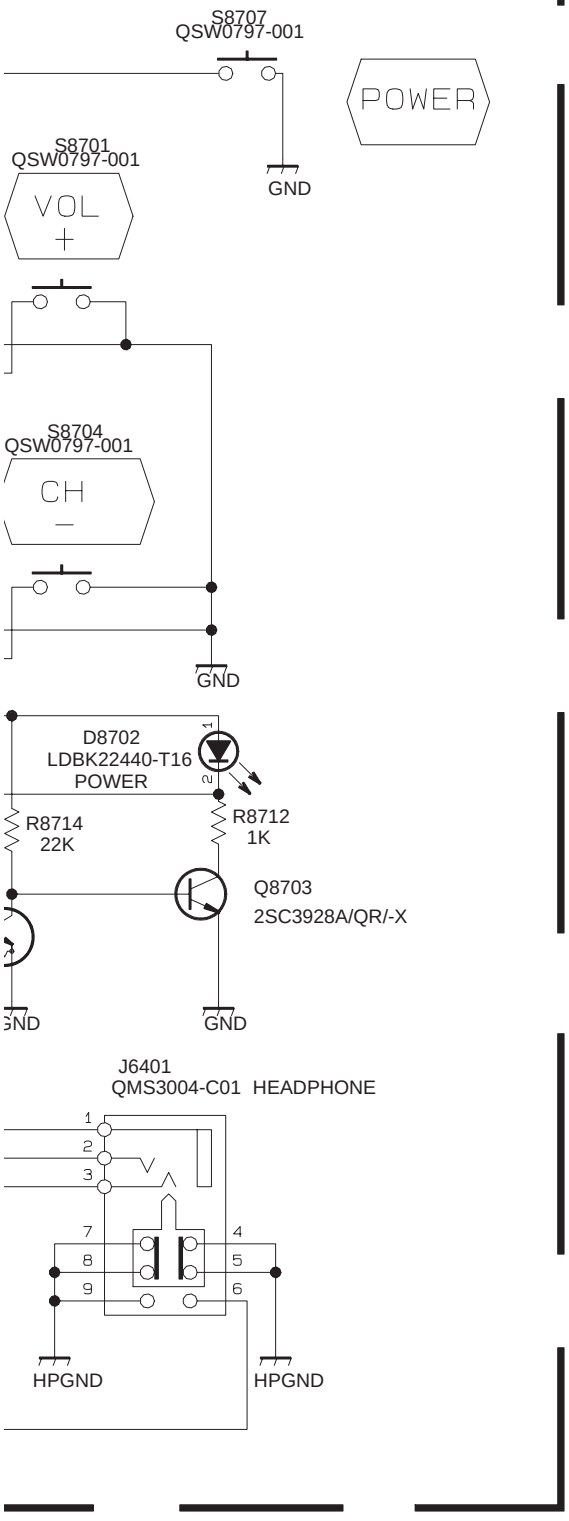

FRONT SENSOR PWB
LCA90155-03B
(SSB-0L286A)
CN8003
QGB2542J1-08
FRONT CONTROL PWB
SHEET10
5V 1
EE_CDS 2
GND 3
GND 4
STB5V 5
REMOCON 6
POWERLED(SCL0) 7
ON_TIMER(SDA0) 8
5V
GND
R8759
1k
STB5V
C8753
OPEN
GND

ASS'Y


IC8751
X
1
2
3
4
GND
R8751
X
R8754
X
R8752
X
C8751
X
R8753
X
GND
NOT USE
IC8752
GP1UM281QK
1
2
3
R8756
0
R8755
OPEN
C8752
47 /16
R8758
OPEN
R8757
0
GND
GND


CN300T
QGA1501C2-10V
KEY1
KEY2
MECA_SW
REMOCON
STB5V
GND
ON_TIMER(SDAO)
POWERLED(SCLO)
5V
EE_CDS
MI-COM & DIST MODULE
GND
S8703
QSW0797-001
S8702
QSW0797-001
CH
+
VOL
−
R8701
5.6k
R8702
15k
CN3003
QGB2542K1-08
5V
EE_CDS
GND
GND
STB5V
REMOCON
POWERLED(SCLO)
ON_TIMER(SDAO)
FRONT SENSOR PWB
SHEET9
S8706
QSW0797-001
S8705
QSW0797-001
MENU
INPUT
R8703
5.6k
R8704
15k
D8701
X
R8711
X
R8713
2.2K
Q8701
UN2212-X
GND
Q8702
UN2212-X
CN300U
QGA1501C2-04V
HP_ L
HP_GND
HP_R
HP_DET
RECEIVER PWB (3/3)
SHEET3
R6417
100
D6413
MA8062/M/-X
HPGND
D6412
MA8062/M/-X
C6412
220/10
C6414
.001
C6413
.001
C6411
220/10
D6411
MA8062/M/-X
R6414
39
R6413
39
R6416
10K
R6415
10K
R6411
39
R6412
39

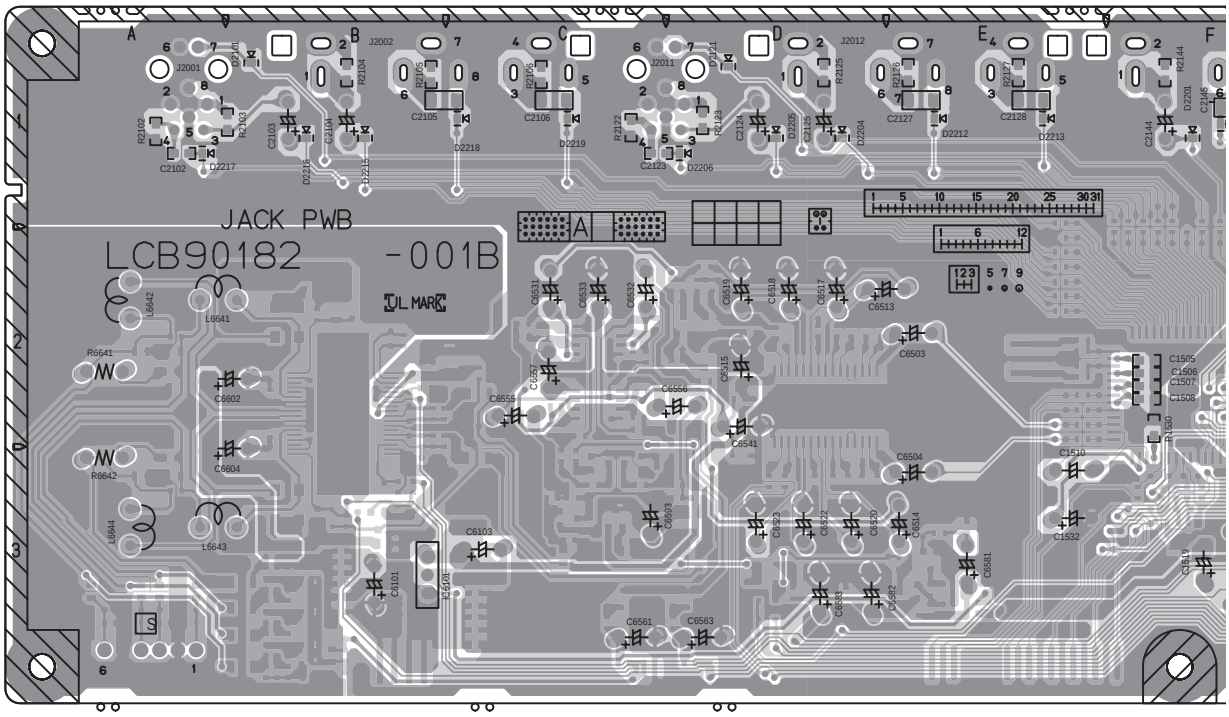
FRONT CONTROL PWB ASS'Y
LCA90154-03D
(SSB-0L386A)



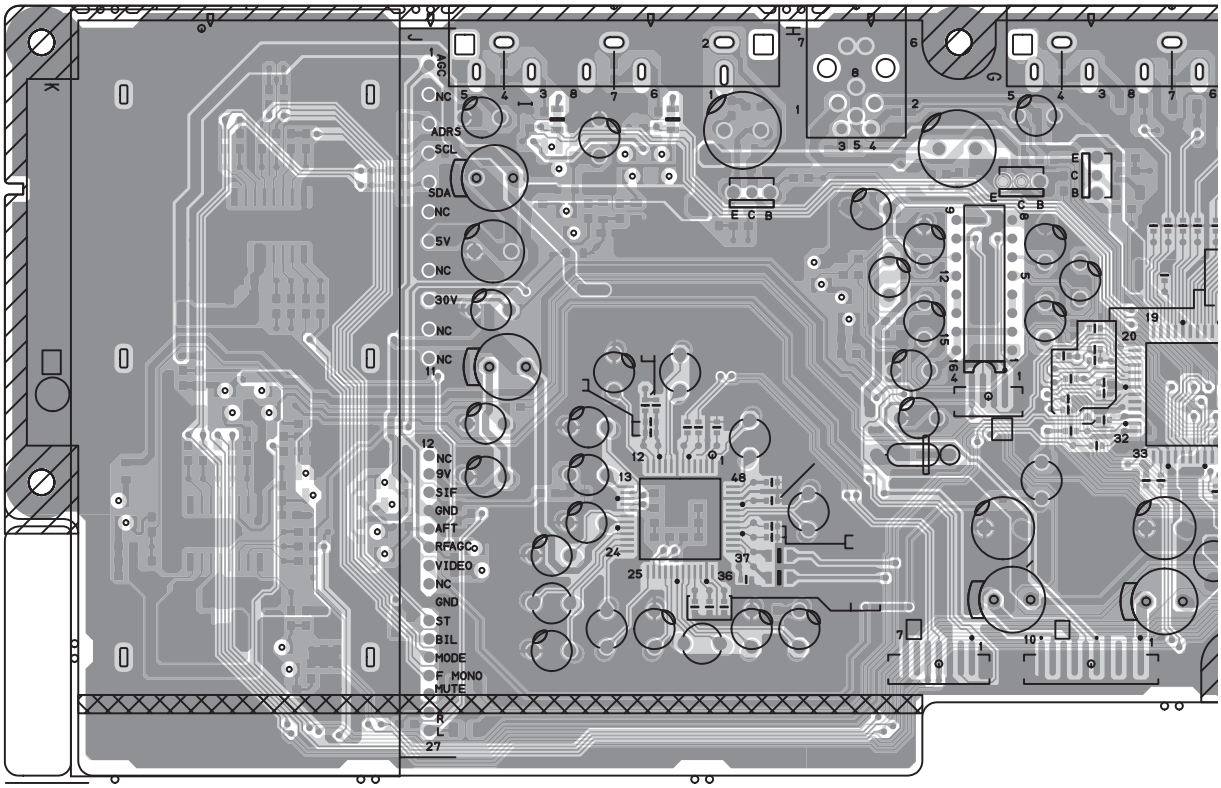
PATTERN DIAGRAMS

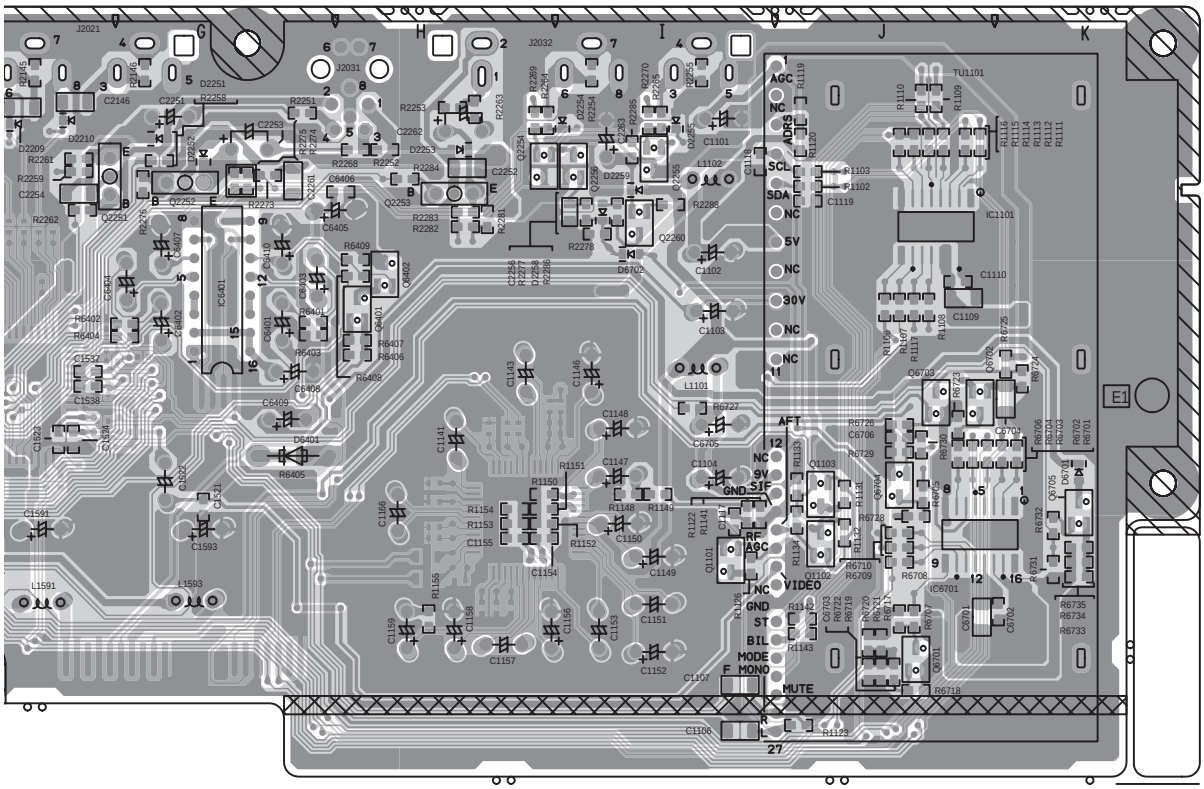
RECEIVER PWB PATTERN [SOLDER SIDE]

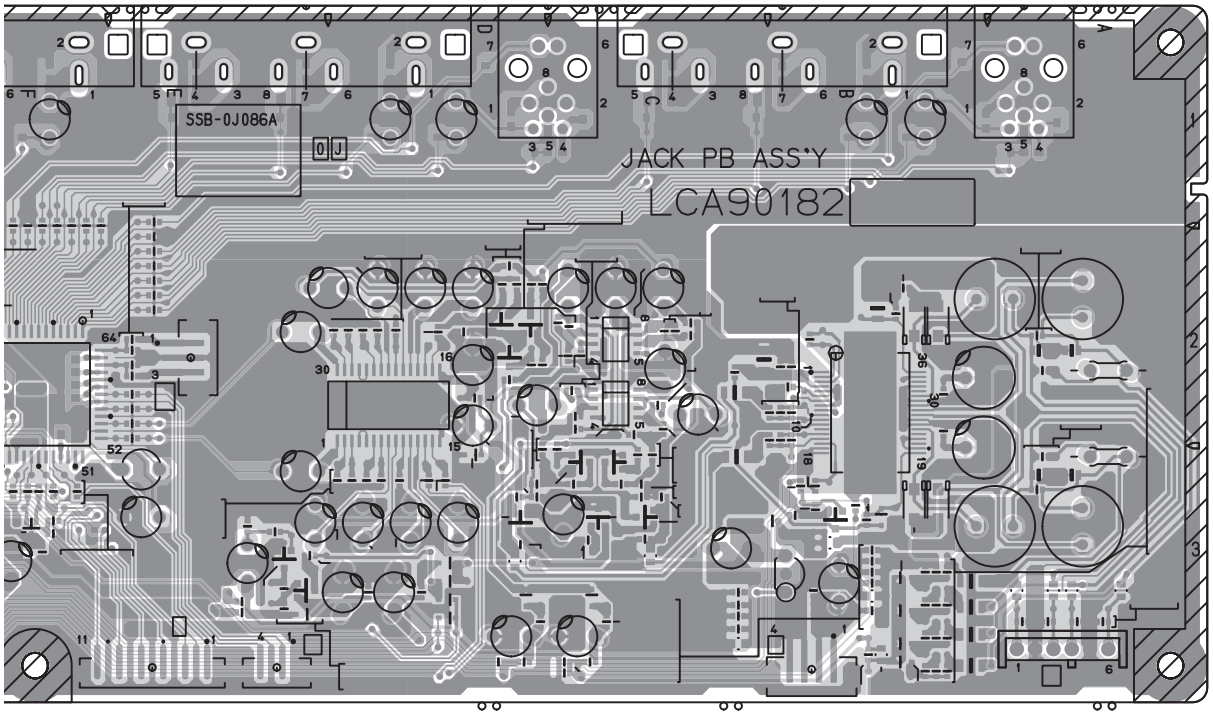
TOP



RECEIVER PWB PATTERN [PARTS SIDE]

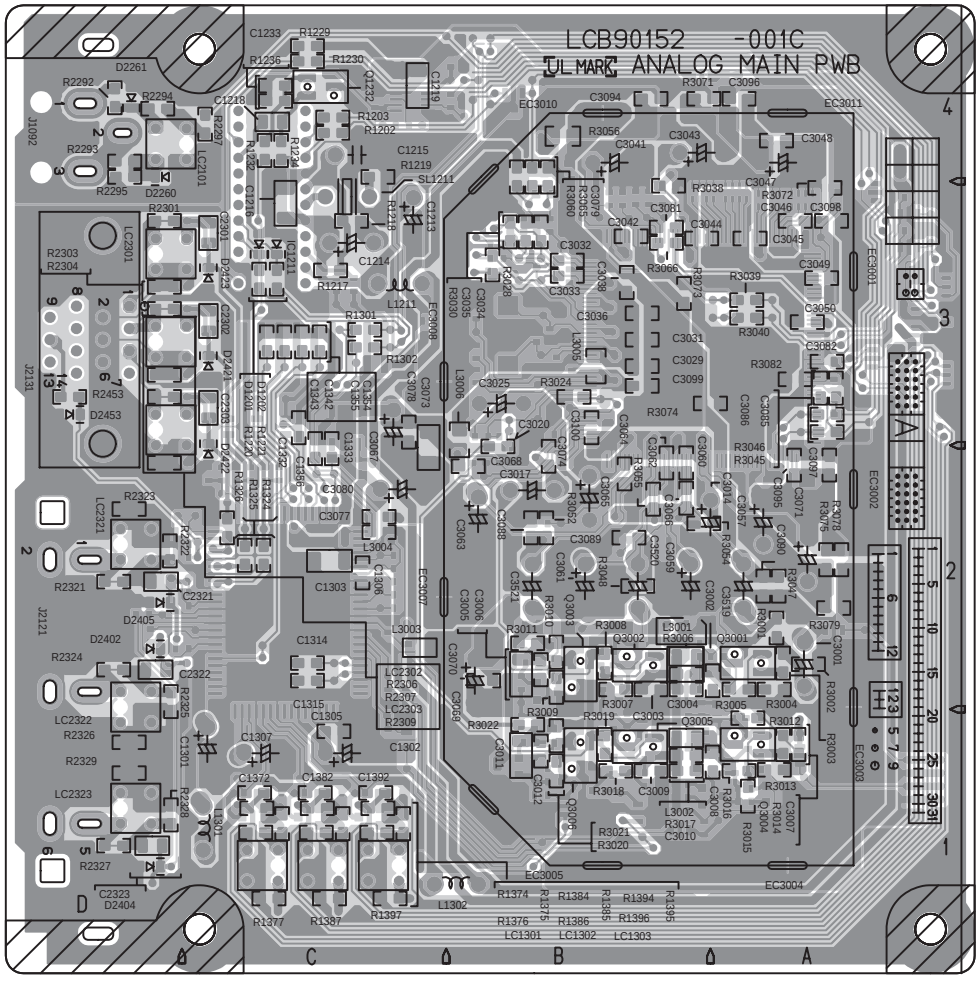



AGC
NC
ADRS
SCL
SDA
NC
5V
NC
30V
NC
NC
AFT
NC
9V
SIF
GND
RF
AGC
NC
VIDEO
NC
GND
ST
BIL
MODE
F MONO
MUTE
E1


SSB-0J086A
JACK PB ASS'Y
LCA90182

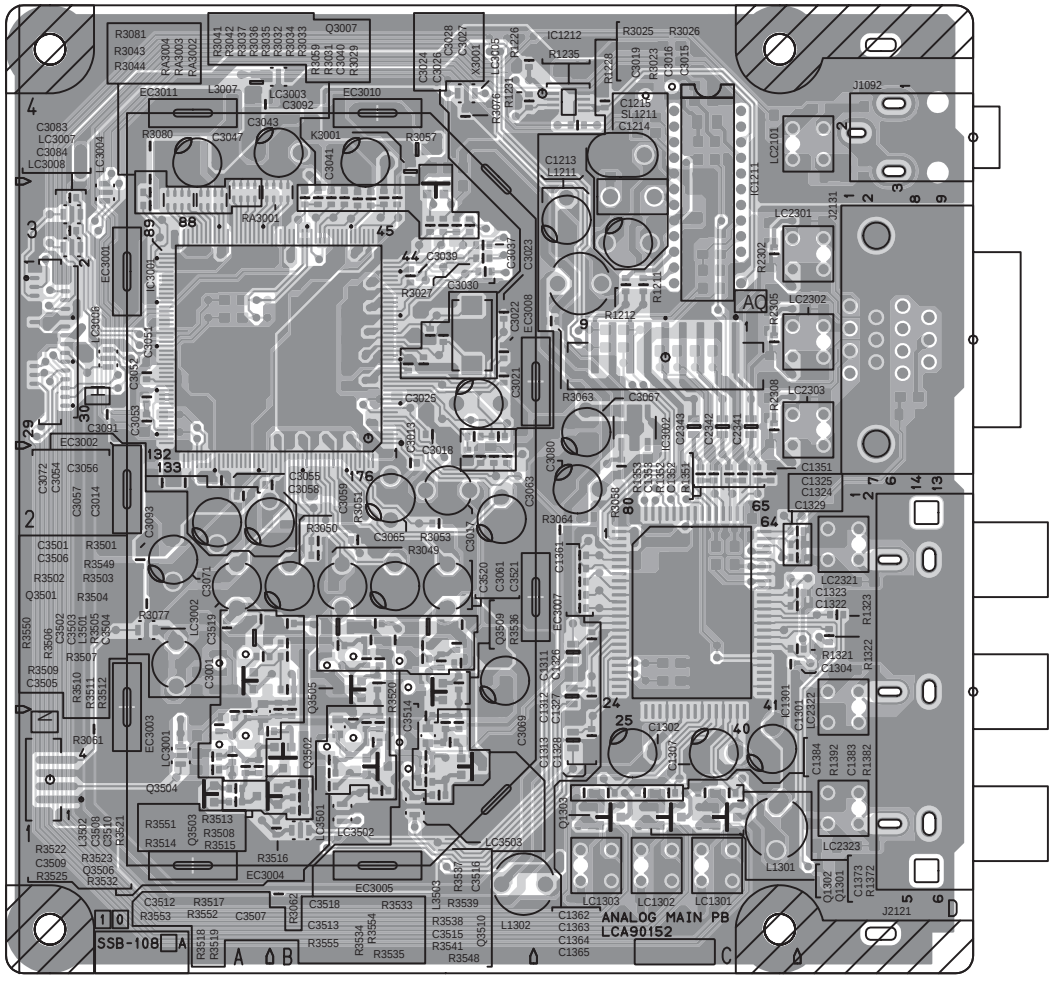
TOP

TOP

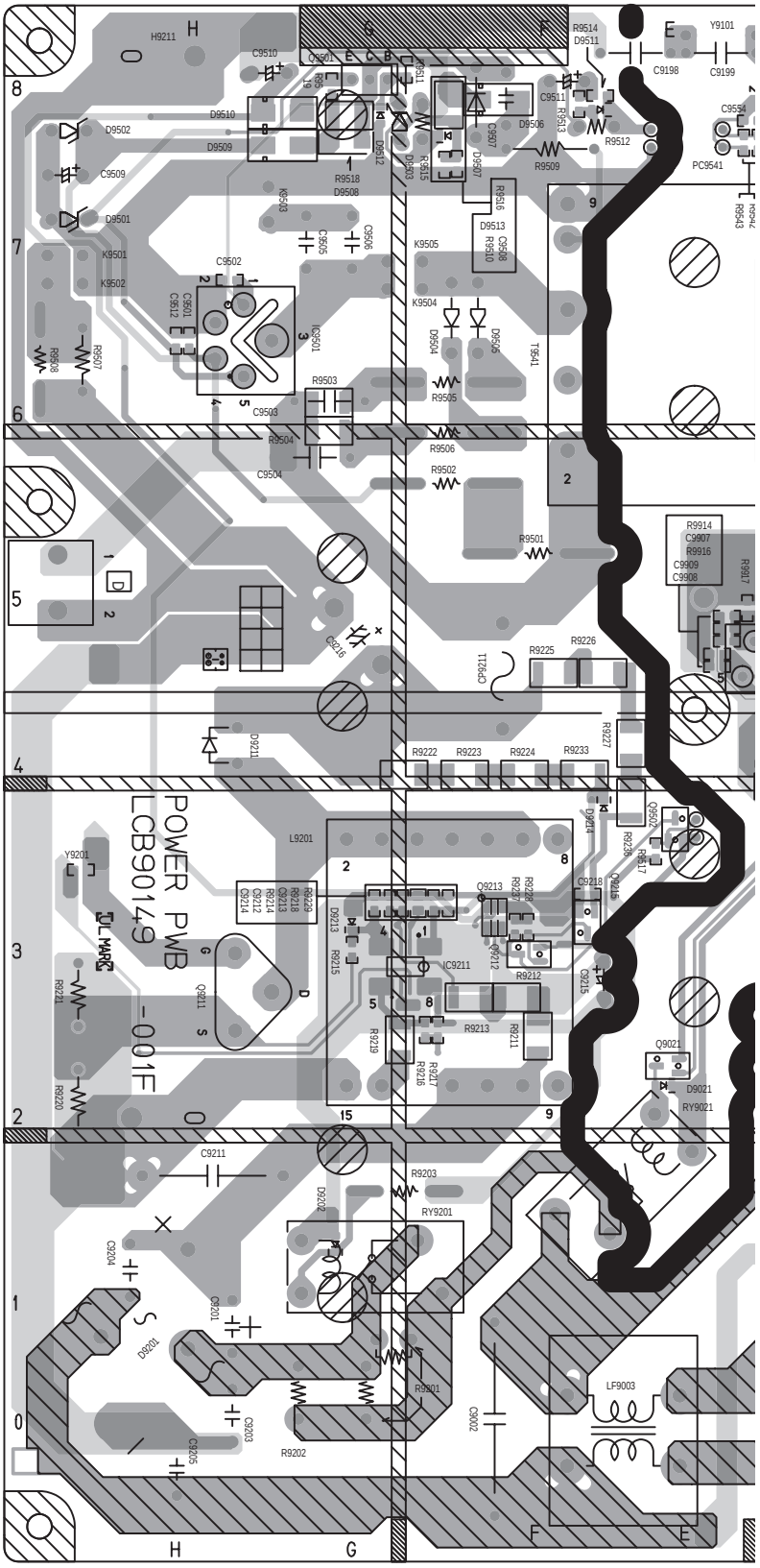


VIDEO PWB PATTERN [PARTS SIDE]

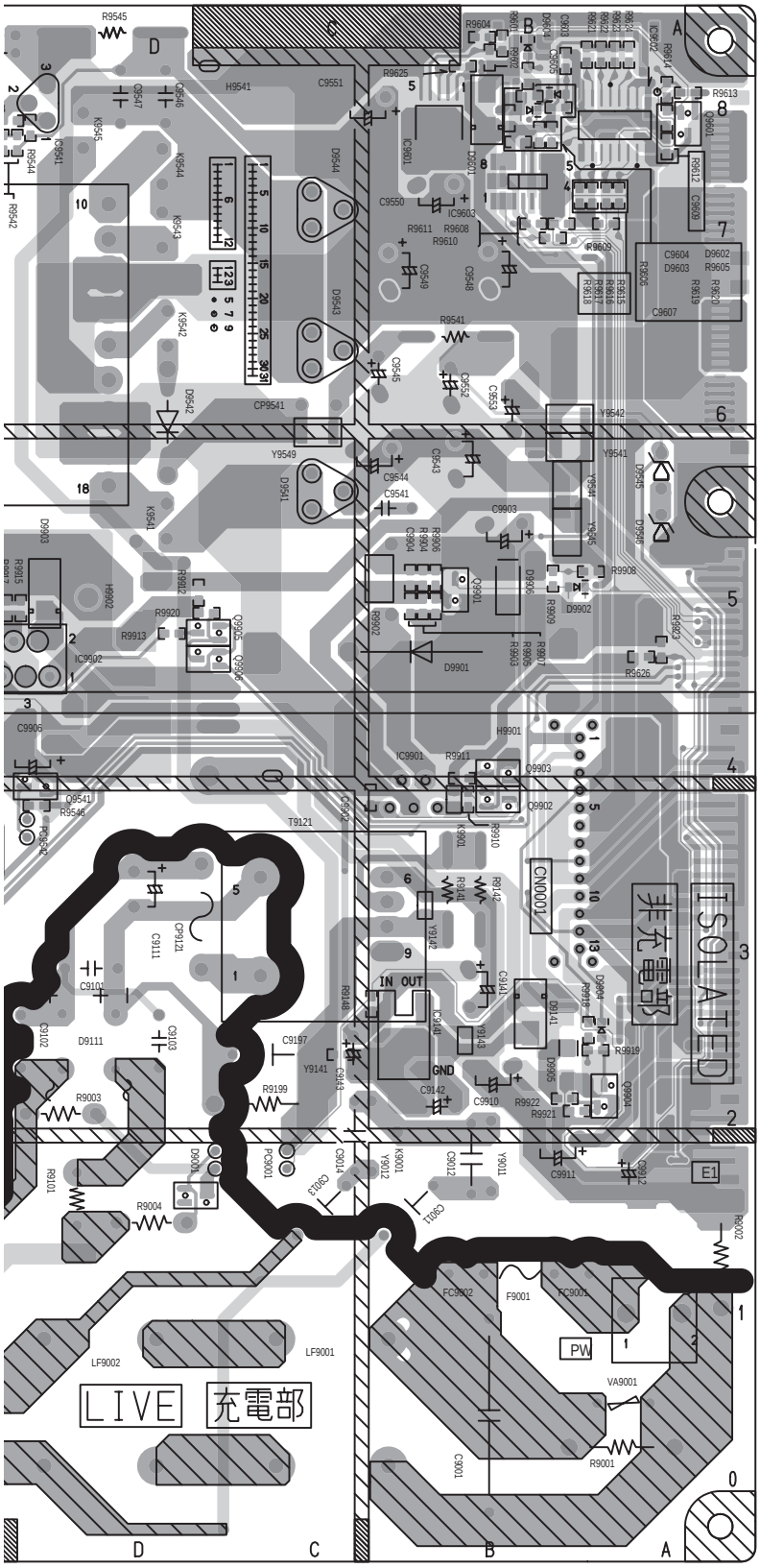
TOP



TC

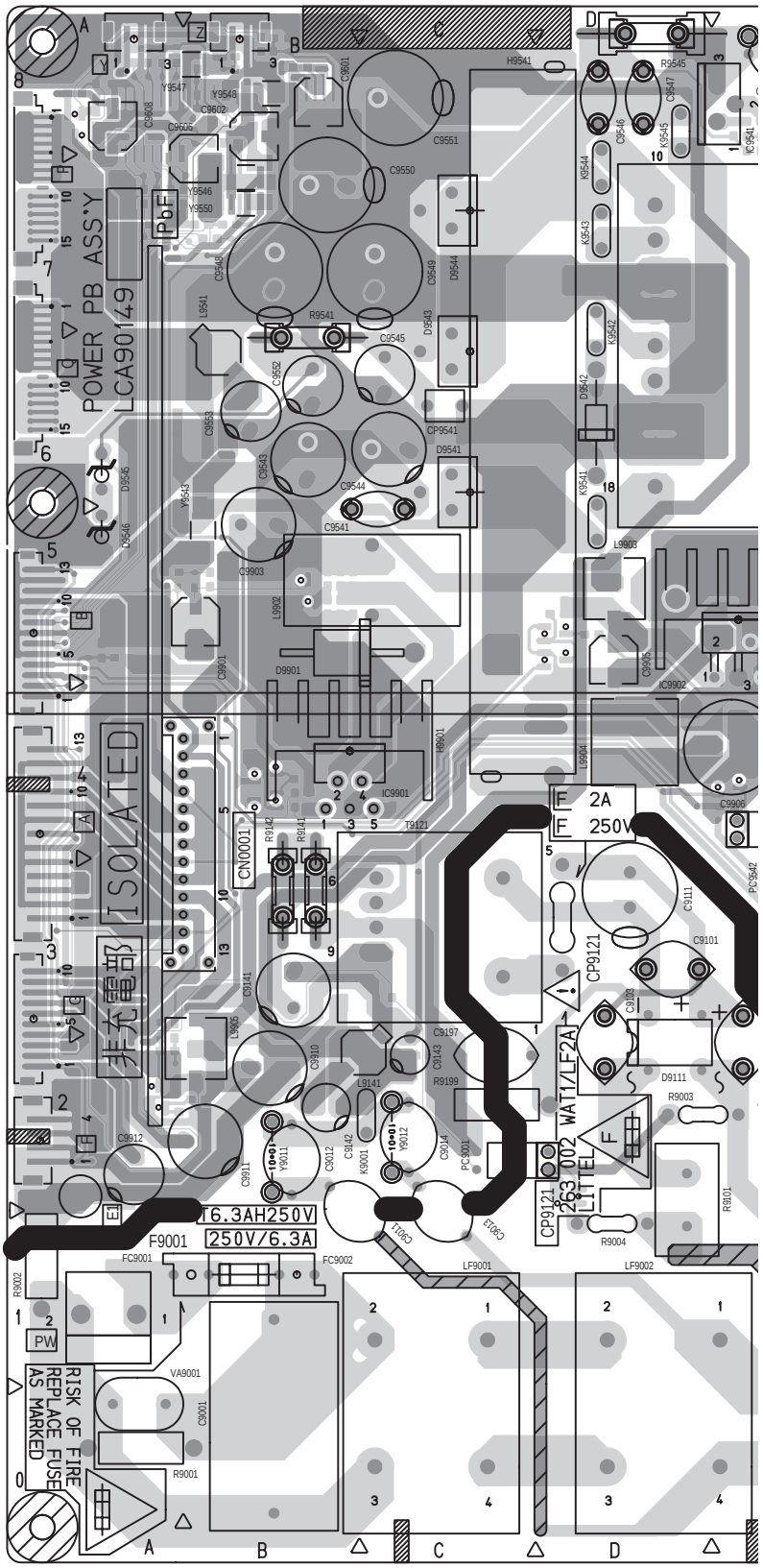


OP

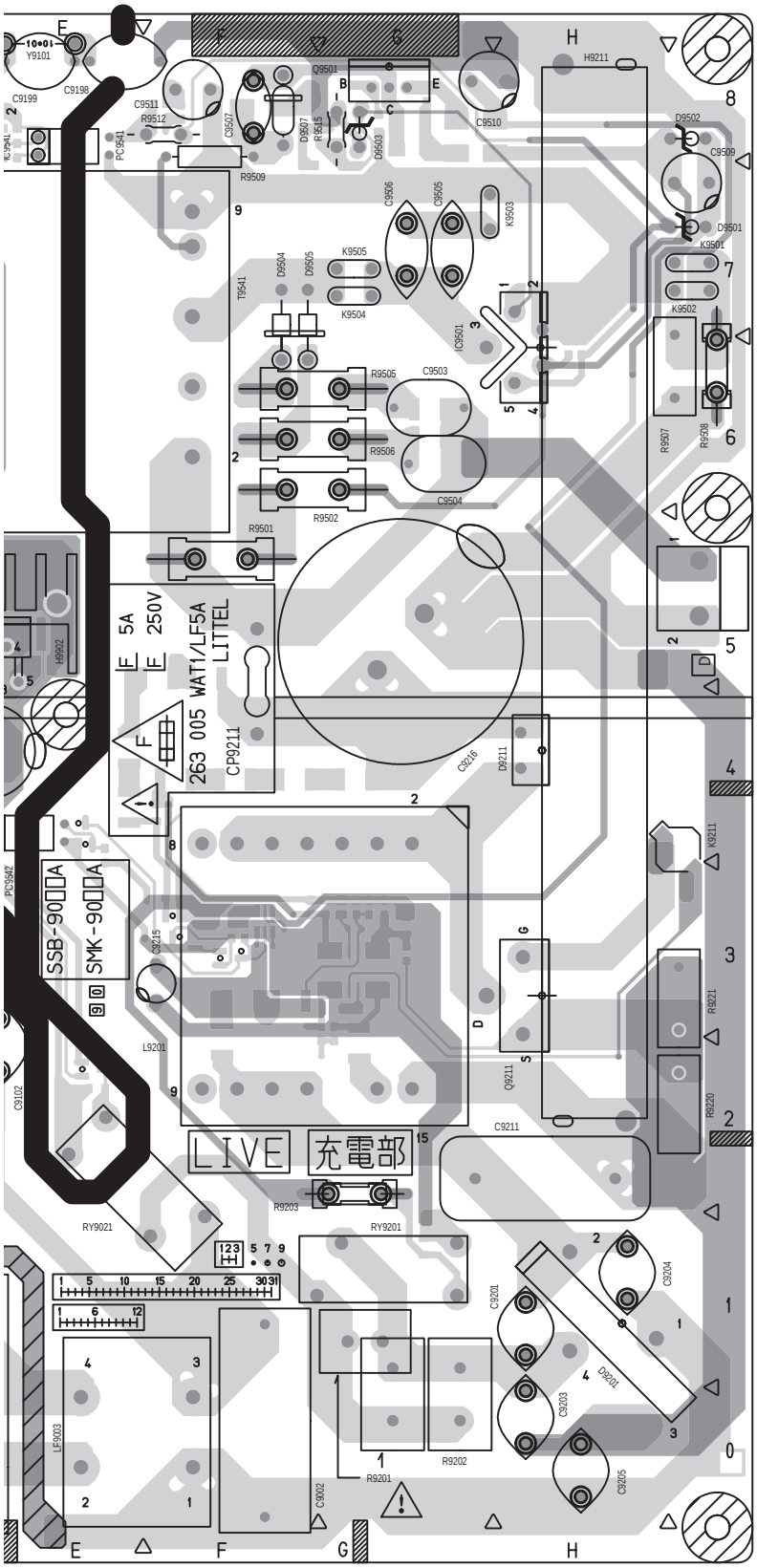


POWER PWB PATTERN [PARTS SIDE]

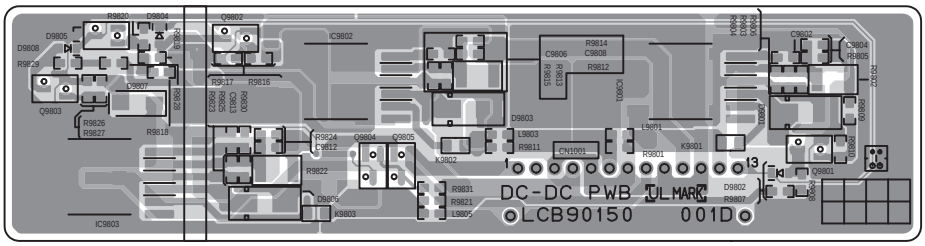
TO



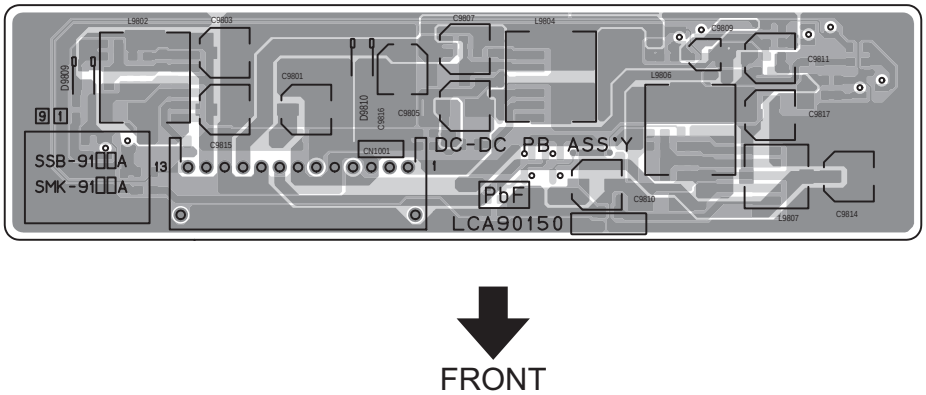
TOP


E
F
G
H
Y9101
C9199
C9198
C9511
R9512
PC9541
C9507
Q9501
D9507
R9515
D9508
C9510
H9211
D9502
C9509
D9501
K9501
K9502
R9509
C9506
C9505
K9503
K9505
K9504
D9504
D9505
T9541
C9501
R9505
C9503
R9506
C9504
R9502
R9501
R9507
R9508
H9902
5A 250V
WAT1/LF5A
LITTEL
263 005
CP9211
C9216
D9211
K9211
SSB-90□□A
SMK-90□□A
C9215
L9201
C9102
Q9211
R9221
R9220
C9211
LIVE
充電部
R9203
RY9021
RY9201
C9201
C9204
D9201
C9203
C9205
R9202
R9201
LF9003
C9002

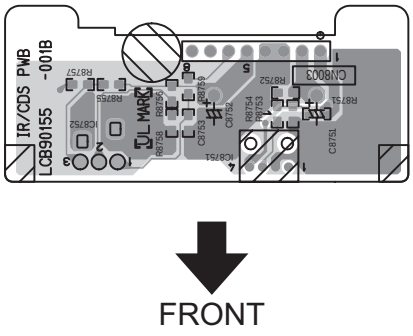
REGULATOR PWB PATTERN [SOLDER SIDE]



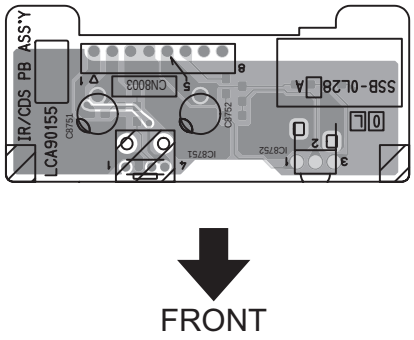
REGULATOR PWB PATTERN [PARTS SIDE]



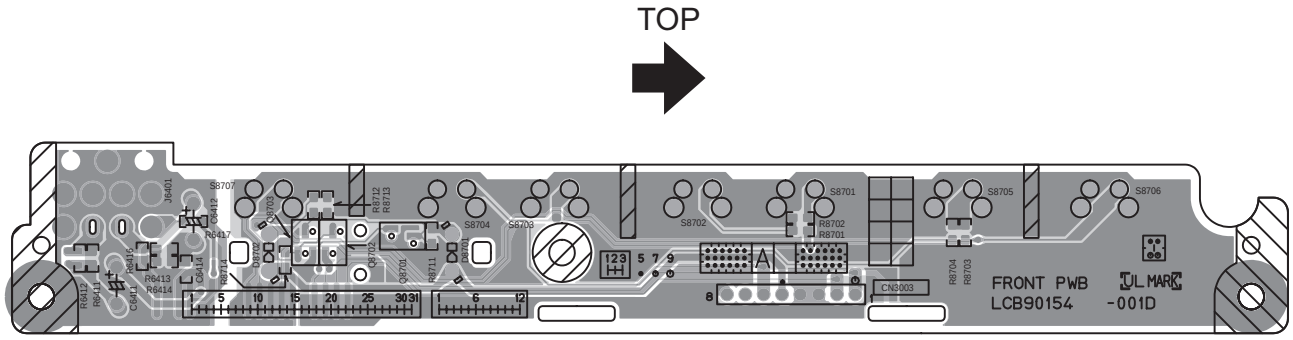
FRONT SENSOR PWB PATTERN [SOLDER SIDE]



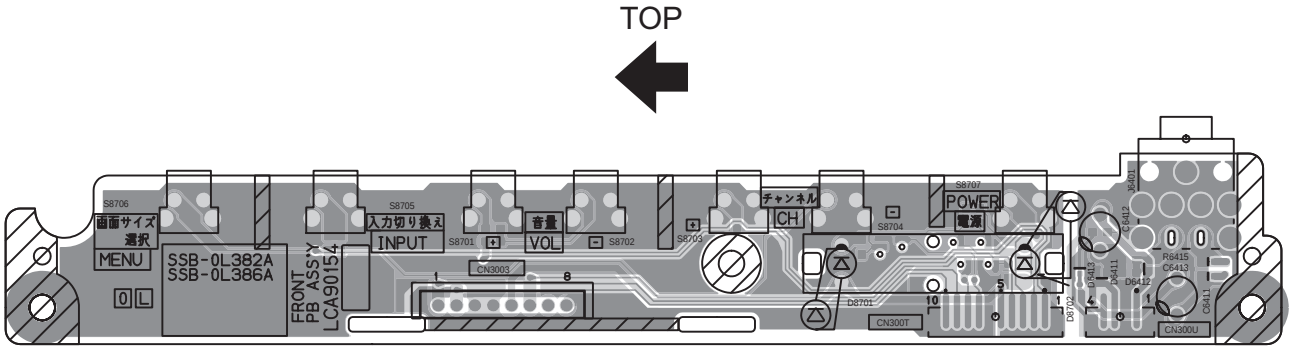
FRONT SENSOR PWB PATTERN [PARTS SIDE]



FRONT CONTROL PWB PATTERN [SOLDER SIDE]



FRONT CONTROL PWB PATTERN [PARTS SIDE]



VOLTAGE CHARTS

<RECEIVER>

MODE PIN NO.	DC (V)
IC1101	
1	0
2	4.2
3	3.0
4	0.5
5	0.5
6	0.5
7	0.5
8	0
9	0.5
10	0
11	0.5
12	0.5
13	5.2
14	5.2
15	0
16	0
IC1102	
1	4.2
2	4.2
3	4.1
4	4.1
5	2.9
6	4.2
7	0
8	4.1
9	0
10	4.1
11	4.0
12	5.3
13	4.1
14	1.3
15	1.3
16	0
17	0
18	3.1
19	9.0
20	0
21	4.1
22	4.1
23	4.2
24	3.9
25	4.1
26	4.0
27	4.1
28	1.7
29	4.1
30	4.1
31	1.7
32	4.0
33	4.1
34	4.1
35	0
36	4.1
37	4.1
38	4.1
39	4.1
40	4.1
41	4.1
42	0
43	4.1
44	0
45	4.2
46	0
47	4.2
48	4.1
IC1501	
1	4.3
2	4.5
3	4.0
4	4.4
5	4.4
6	0
7	5.0
8	4.0
9	4.5
10	3.9
11	4.5
12	4.4
13	0
14	5.0
15	3.9
16	4.5
17	3.9
18	4.5
19	4.4
20	0.1
21	5.1
22	3.9
23	4.5
24	4.0
25	4.5
26	4.4
27	0
28	5.0
29	4.5
30	5.5
31	4.4

MODE PIN NO.	DC (V)
32	0
33	4.3
34	2.9
35	0
36	0
37	4.4
38	4.5
39	3.7
40	4.5
41	3.7
42	9.0
43	4.5
44	4.3
45	4.5
46	3.7
47	4.4
48	0
49	3.9
50	4.5
51	4.4
52	4.5
53	3.7
54	4.5
55	3.7
56	3.2
57	0
58	4.3
59	4.5
60	3.9
61	4.5
62	4.5
63	4.5
64	4.4
IC6101	
1	11.9
2	0.0
3	13.9
IC6401	
1	0.0
2	2.0
3	1.9
4	1.9
5	2.0
6	3.8
7	1.9
8	0.0
9	4.5
10	1.9
11	0.0
12	1.9
13	2.0
14	1.9
15	1.9
16	1.9
IC6501	
1	5.9
2	6.0
3	6.0
4	5.9
5	5.9
6	6.0
7	5.9
8	6.0
9	0.9
10	6.0
11	3.0
12	2.9
13	4.1
14	4.2
15	0.0
16	11.9
17	4.5
18	0.0
19	5.3
20	5.2
21	5.9
22	6.0
23	6.0
24	6.0
25	6.0
26	6.0
27	6.0
28	6.0
29	6.0
30	6.0
IC6531	
1	6.2
2	6.3
3	6.2
4	0.0
5	6.2
6	6.2
7	6.3
8	11.9
IC6551	
1	6.3
2	6.3
3	6.2

MODE PIN NO.	DC (V)
4	0.0
5	6.2
6	0.0
7	6.3
8	11.9
IC6641	
1	5.1
2	0.0
3	6.9
4	5.1
5	0.0
6	1.0
7	4.3
8	0.0
9	5.1
10	2.4
11	2.3
12	0.0
13	0.0
14	2.4
15	2.4
16	2.4
17	0.0
18	0.0
19	0.0
20	0.0
21	0.0
22	0.0
23	0.0
24	7.0
25	13.9
26	13.9
27	13.9
28	6.9
29	9.6
30	13.9
31	6.9
32	0.0
33	13.9
34	0.0
35	0.0
36	22.1
IC6701	
1	0.0
2	4.5
3	4.2
4	5.2
5	0.0
6	5.4
7	5.4
8	0.0
9	0.1
10	5.3
11	5.4
12	0.0
13	5.4
14	0.0
15	0.0
16	5.5
TU1101	
1	4.2
2	5.8
3	5.2
4	4.3
5	3.0
6	0
7	5.2
8	0
9	31.9
10	0
11	0
12	0
13	0
14	2.4
15	0
16	4.8
17	4.2
18	2.5
19	0
20	0
21	0
22	0
23	0
24	0
25	0
26	0
27	0
Q1101	
E	0
C	4.2
B	0
Q1102	
E	5.4
C	0
B	4.8
Q1103	
E	4.8
C	9.0

MODE PIN NO.	DC (V)
B	5.4
Q2251	
E	5.1
C	0.0
B	4.9
Q2252	
E	4.4
C	0.0
B	3.8
Q2253	
E	4.5
C	0.0
B	3.8
Q2254	
E	0.0
C	0.0
B	-0.4
Q2255	
E	0.0
C	0.0
B	-0.2
Q2256	
E	0.0
C	-0.2
B	0.0
Q2260	
E	9.0
C	-0.3
B	8.9
Q6401	
E	3.5
C	3.4
B	0.0
Q6402	
E	0.0
C	0.0
B	3.5
Q6504	
E	0.0
C	0.0
B	0.6
Q6505	
E	0.0
C	0.0
B	0.6
Q6506	
E	0.8
C	0.6
B	0.2
Q6551	
E	0.0
C	0.0
B	0.5
Q6552	
E	00
C	0.0
B	0.5
Q6581	
E	0.0
C	11.8
B	0.0
Q6582	
E	11.4
C	-0.4
B	11.8
Q6591	
E	0.0
C	0.0
B	-0.7
Q6592	
E	0.0
C	0.0
B	-0.9
Q6593	
E	0.0
C	-0.8
B	0.0
Q6601	
E	0.0
C	0.0
B	0.6
Q6702	
E	5.4
C	5.4
B	4.7
Q6703	
E	0.0
C	0.0
B	0.6
Q6704	
E	0.0
C	5.4
B	0.0
Q6705	
E	5.4
C	0.0
B	5.3
CN000K	

MODE PIN NO.	DC (V)
1	4.8
2	0
3	0
4	2.9
5	4.3
6	3.3
7	0
CN000J	
1	4.4
2	0
3	4.3
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0

<REGURATOR>

MODE PIN NO.	DC (V)
IC9801	
1	21.2
2	9.2
3	0.0
4	9.0
5	2.5
IC9802	
1	21.2
2	5.4
3	0.0
4	5.0
5	2.5
IC9803	
1	15.7
2	5.2
3	0.0
4	4.9
5	2.1
Q9801	
E	0.0
C	0.0
B	0.6
Q9802	
E	0.0
C	0.0
B	0.0
Q9803	
E	0.0
C	0.0
B	0.6
Q9804	
E	0.0
C	0.0
B	3.2
Q9805	
E	0.0
C	2.1
B	0.0

<FRONT SENSOR>

MODE PIN NO.	DC (V)
IC8752	
1	3.5
2	5.4
3	0.0

<FRONT CONTROL>

MODE PIN NO.	DC (V)
Q8701	
E	0
C	2.4
B	0
Q8702	
E	0.0
C	0.7
B	0
Q8703	
E	0
C	0
B	0.7
CN300T	
1	3.3
2	3.3
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0

<VIDEO>

MODE PIN NO.	DC (V)
IC3001	
1	0.0
2	3.3
3	3.3
4	0.0
5	1.5
6	2.2
7	0.8
8	0.0
9	0.5
10	0.0
11	0.0
12	2.5
13	1.7
14	0.7
15	0.0
16	0.0
17	3.3
18	3.3
19	0.0
20	0.0
21	0.1
22	0.0
23	3.3
24	1.6
25	0.0
26	1.7
27	3.3
28	0.0
29	1.5
30	0.0
31	1.0
32	3.3
33	0.1
34	3.3
35	0.7
36	0.0
37	1.0
38	3.3
39	0.0
40	3.3
41	1.0
42	0.3
43	0.0
44	0.0
45	0.0
46	0.0
47	3.2
48	0.0
49	0.0
50	0.0
51	0.0
52	0.0
53	0.0
54	0.0
55	0.0
56	0.0
57	0.0
58	0.0
59	3.2
60	3.2
61	2.6
62	3.2
63	0.0
64	0.0
65	0.0
66	1.3
67	0.0
68	0.0
69	0.0
70	0.0
71	0.0
72	0.0
73	0.0
74	0.0
75	0.0
76	0.0
77	0.0
78	3.2
79	0.0
80	0.0
81	0.0
82	0.0
83	0.0
84	0.0
85	0.0
86	0.0
87	0.0
88	0.0
89	0.0
90	0.0
91	0.0
92	0.0
93	0.0
94	0.0
95	0.0
96	0.0
97	0.0

MODE PIN NO.	DC (V)
98	0.0
99	3.2
100	0.0
101	0.0
102	0.0
103	0.0
104	0.0
105	0.0
106	0.0
107	0.0
108	0.0
109	0.0
110	0.0
111	0.0
112	0.0
113	0.0
114	3.2
115	0.0
116	0.0
117	0.0
118	0.0
119	3.2
120	0.0
121	0.0
122	0.0
123	0.0
124	0.0
125	0.0
126	0.0
127	3.2
128	1.7
129	0.0
130	3.2
131	3.2
132	0.0
133	0.0
134	0.0
135	3.2
136	0.0
137	0.0
138	1.5
139	1.5
140	0.0
141	3.2
142	0.0
143	0.0
144	0.0
145	0.0
146	0.0
147	0.0
148	0.0
149	0.0
150	0.0
151	0.0
152	0.0
153	3.2
154	0.0
155	3.2
156	0.0
157	0.0
158	1.3
159	0.0
160	1.3
161	3.3
162	0.0
163	0.6
164	1.3
165	2.5
166	1.3
167	3.3
168	0.0
169	0.6
170	1.3
171	2.4
172	1.3
173	3.3
174	0.0
175	0.0
176	0.0
IC3002	
1	4.9
2	0.0
3	0.0
4	4.9
5	3.4
IC1211	
1	0.0
2	0.0
3	0.3
4	0.0
5	0.0
6	6.2
7	4.9
8	8.9
9	1.2
10	0.0
11	0.0
12	0.0

MODE PIN NO.	DC (V)
13	0.6
14	0.0
15	0.0
16	4.2
17	4.1
18	4.4
19	2.2
20	1.3
21	2.2
22	0.3
23	0.0
24	0.0
IC1212	
1	3.2
2	3.2
3	0.2
4	0.0
5	0.5
6	0.5
7	3.2
8	3.2
IC1301	
1	5.0
2	4.1
3	4.4
4	0.0
5	4.6
6	0.0
7	4.7
8	0.0
9	4.6
10	0.0
11	4.4
12	4.4
13	0.0
14	4.6
15	0.0
16	4.6
17	0.0
18	4.6
19	0.0
20	4.4
21	4.4
22	0.0
23	4.5
24	4.4
25	0.0
26	4.5
27	4.5
28	0.0
29	0.0
30	4.5
31	8.9
32	4.5
33	4.5
34	0.0
35	4.4
36	4.4
37	0.0
38	4.4
39	4.4
40	4.4
41	4.4
42	0.0
43	4.3
44	4.3
45	0.0
46	4.3
47	8.9
48	4.7
49	0.0
50	4.6
51	0.0
52	4.6
53	0.0
54	4.5
55	4.5
56	0.0
57	4.6
58	0.0
59	4.6
60	0.0
61	0.0
62	0.5
63	4.4
64	4.4
65	0.0
66	4.6
67	4.6
68	4.6
69	0.0
70	4.4
71	4.4
72	0.0
73	5.0
74	4.6
75	4.6
76	4.6

MODE PIN NO.	DC (V)
77	0.0
78	4.5
79	4.5
80	0.0
Q3001	
E	5.5
C	8.9
B	6.4
Q3002	
E	4.0
C	8.9
B	4.6
Q3003	
E	4.6
C	0.0
B	4.0
Q3004	
E	5.5
C	8.9
B	6.1
Q3005	
E	4.0
C	8.9
B	4.6
Q3006	
E	4.6
C	0.0
B	4.0
Q3007	
E	0.9
C	0.0
B	0.3
Q3501	
E	5.2
C	0.0
B	4.5
Q3502	
E	4.5
C	8.9
B	5.2
Q3505	
E	5.1
C	0.0
B	4.5
Q3506	
E	4.5
C	8.9
B	5.1
Q3509	
E	5.1
C	0.0
B	4.5
Q3510	
E	4.5
C	8.9
B	5.1
Q1232	
E	2.8
C	0.0
B	2.2
Q1301	
E	3.6
C	8.9
B	4.3
Q1302	
E	3.7
C	8.9
B	4.4
Q1303	
E	3.6
C	8.9
B	4.3
CN100H	
1	0
2	0
3	0.3
4	2.9
5	0
6	2.7
7	3.6
8	0
9	3.7
10	3.2
11	5.1
12	0
13	3.3
14	5.1
15	9.0
16	8.9
17	5.1
18	3.3
19	0
20	5.1
21	3.2
22	3.7
23	0
24	3.7
25	2.7

MODE PIN NO.	DC (V)
26	0.2
27	2.9
28	0.3
29	0
30	0
CN10AQ	
1	1.1
2	0
3	1.2
4	0
5	1.4
6	0
7	0
8	0
9	0

<POWER>

MODE PIN NO.	DC (V)
IC9211	
1	-42.5
2	-41.5
3	-43.0
4	-42.9
5	-42.0
6	-42.7
7	-30.8
8	-24.1
IC9501	
1	-42.7
2	-43.3
3	340
4	-24.0
5	-40.5
IC9541	
1	15.0
2	14.4
3	0.0
IC9901	
1	15.6
2	3.6
3	0.0
4	3.3
5	2.4
IC9902	
1	21.2
2	13.9
3	0.0
4	1.3
5	6.7
Q9021	
E	0.0
C	0.3
B	3.2
Q9211	
S	-43.9
D	45.6
G	-30.9
Q9212	
E	0.0
C	-28.4
B	-43.5
Q9213	
1	-44.0
2	-44.0
3	-24.0
4	-24.0
5	-28.4
6	-44.0
Q9215	
E	-42.1
C	-42.0
B	-41.5
Q9502	
E	-44.2
C	-28.6
B	-44.2
Q9541	
E	0.0
C	0.0
B	3.2
Q9901	
E	0
C	0
B	0.6
Q9902	
E	0.0
C	2.4
B	0.0
Q9903	
E	0.0
C	0.0
B	3.2
Q9904	
E	0.0
C	0.0
B	0.7
Q9905	

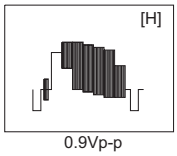
MODE PIN NO.	DC (V)
E	0.0
C	6.7
B	0.0
Q9906	
E	0.0
C	0.0
B	5.1
CN000A	
1	0
2	0
3	3.3
4	3.3
5	0
6	0
7	5.1
8	0
9	5.2
10	0
11	5.1
12	0
13	2.5
CN000B	
1	3.3
2	0
3	3.3
4	3.3
5	0
6	4.3
7	0
8	3.0
9	32.3
10	0
11	20.8
12	0
13	13.7

WAVE FORMS

－RECIEVER PWB－

[SHEET1]

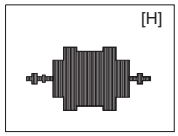
TU1101-18



0.9Vp-p

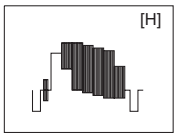
[SHEET2]

IC1501-5



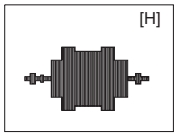
0.7Vp-p

IC1501-30



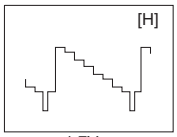
0.9Vp-p

IC1501-37



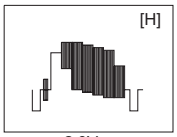
1.5Vp-p

IC1501-39



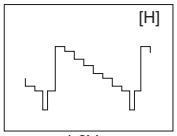
1.7Vp-p

IC1501-41



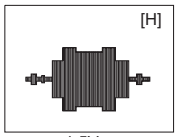
2.0Vp-p

IC1501-44



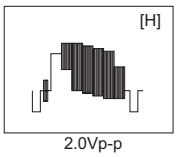
1.8Vp-p

IC1501-47



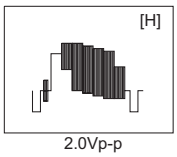
1.5Vp-p

IC1501-49



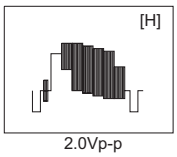
2.0Vp-p

IC1501-53



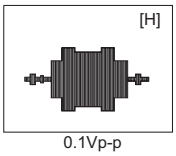
2.0Vp-p

IC1501-56



2.0Vp-p

IC1501-58

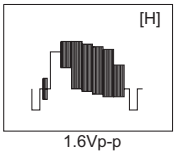


0.1Vp-p

－VIDEO PWB－

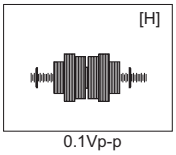
[SHEET4]

IC3001-7



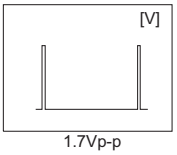
1.6Vp-p

IC3001-13



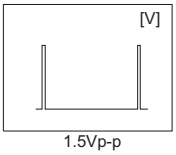
0.1Vp-p

IC3001-42



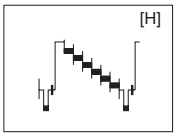
1.7Vp-p

IC3001-136



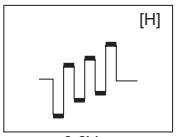
1.5Vp-p

IC3001-157



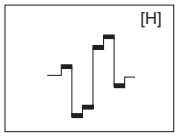
0.8Vp-p

IC3001-163



0.6Vp-p

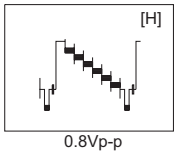
IC3001-169



0.6Vp-p

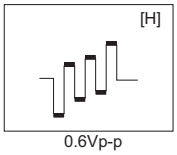
[SHEET5]

IC1301-14



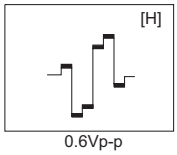
0.8Vp-p

IC1301-16



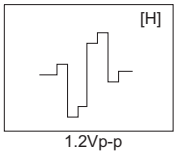
0.6Vp-p

IC1301-18



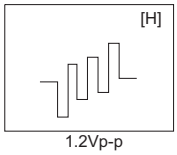
0.6Vp-p

IC1301-35



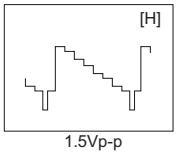
1.2Vp-p

IC1301-36



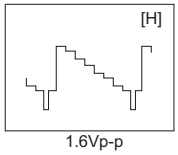
1.2Vp-p

IC1301-38



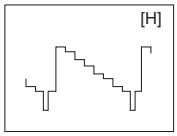
1.5Vp-p

IC1301-46



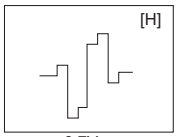
1.6Vp-p

IC1301-48



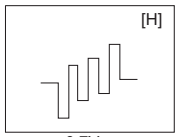
0.8Vp-p

IC1301-50



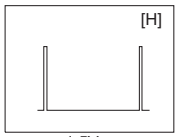
0.7Vp-p

IC1301-52



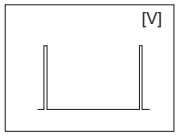
0.7Vp-p

IC1211-3



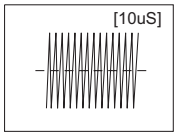
1.5Vp-p

IC1211-4



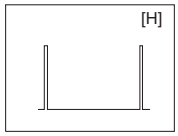
1.5Vp-p

IC1211-7



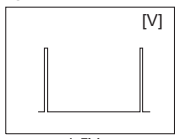
0.2Vp-p

IC1211-13



1.5Vp-p

IC1211-22



1.5Vp-p

CHANNEL CHART (US)

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
○	○	VL	02 03 04 05 06		I
		VH	07 08 09 10 11 12 13		II
×	○	MID	A	14	I
			B	15	
			C	16	II
			D	17	
			E	18	
			F	19	
			G	20	
			H	21	
			I	22	
		SUPER	J	23	
			K	24	
			L	25	
			M	26	
			N	27	
			O	28	
			P	29	
			Q	30	
			R	31	
			S	32	
			T	33	
			U	34	
			V	35	
			W	36	
		HYPER	W+1	37	
			W+2	38	
			W+3	39	
			W+4	40	
			W+5	41	
			W+6	42	
			W+7	43	
			W+8	44	
			W+9	45	
			W+10	46	
			W+11	47	
			W+12	48	IV
			W+13	49	
			W+14	50	
			W+15	51	
			W+16	52	
			W+17	53	
			W+18	54	
			W+19	55	
			W+20	56	
			W+21	57	
			W+22	58	
			W+23	59	
			W+24	60	
			W+25	61	
			W+26	62	
			W+27	63	
			W+28	64	
		ULTRA	W+29	65	
			W+30	66	
			W+31	67	
			W+32	68	
			W+33	69	
			W+34	70	

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
×	○	ULTRA	W+35	71	IV
			W+36	72	
			W+37	73	
			W+38	74	
			W+39	75	
			W+40	76	
			W+41	77	
			W+42	78	
			W+43	79	
			W+44	80	
			W+45	81	
			W+46	82	
			W+47	83	
			W+48	84	
			W+49	85	
			W+50	86	
			W+51	87	
			W+52	88	
			W+53	89	
			W+54	90	
			W+55	91	
			W+56	92	
			W+57	93	
			W+58	94	
			W+59	100	
			W+60	101	
			W+61	102	
			W+62	103	
			W+63	104	
			W+64	105	
			W+65	106	
			W+66	107	
			W+67	108	
			W+68	109	
			W+69	110	
			W+70	111	
			W+71	112	
			W+72	113	
			W+73	114	
			W+74	115	
			W+75	116	
			W+76	117	
			W+77	118	
			W+78	119	
			W+79	120	
			W+80	121	
			W+81	122	
			W+82	123	
			W+83	124	
			W+84	125	
		SUB MID	A-8	01	I
			A-4	96	
			A-3	97	
			A-2	98	
			A-1	99	
○	×	UHF	14 ~ 69		IV

TOTAL 180CH
{ VHF 124CH
{ UHF 56CH

NOTE:
TO RECEIVE THE SUBSCRIPTION OR PREMIUM PROGRAMMING FROM CERTAIN CABLE COMPANIES.
SPECIAL ADAPTERS MAY BE REQUIRED.

CHANNEL CHART (CA)

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
○	○	VL	02		I
			03		
			04		
			05		
			06		
		VH	07		II
			08		
			09		
			10		
			11		
			12		
			13		
×	○	MID	A	14	
			B	15	
			C	16	
			D	17	
			E	18	
			F	19	
			G	20	
			H	21	
			I	22	
		SUPER	J	23	
			K	24	
			L	25	
			M	26	
			N	27	
			O	28	
			P	29	III
			Q	30	
			R	31	
			S	32	
			T	33	
			U	34	
			V	35	
			W	36	
		HYPER	W+1	37	
			W+2	38	
			W+3	39	
			W+4	40	
			W+5	41	
			W+6	42	
			W+7	43	
			W+8	44	
			W+9	45	
			W+10	46	
			W+11	47	
			W+12	48	
			W+13	49	
			W+14	50	
			W+15	51	
			W+16	52	
			W+17	53	
			W+18	54	
			W+19	55	
			W+20	56	
			W+21	57	
			W+22	58	
			W+23	59	
			W+24	60	
			W+25	61	
			W+26	62	
			W+27	63	
			W+28	64	
		ULTRA	W+29	65	
			W+30	66	IV
			W+31	67	
			W+32	68	
			W+33	69	
			W+34	70	

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
×	○	ULTRA	W+35	71	IV
			W+36	72	
			W+37	73	
			W+38	74	
			W+39	75	
			W+40	76	
			W+41	77	
			W+42	78	
			W+43	79	
			W+44	80	
			W+45	81	
			W+46	82	
			W+47	83	
			W+48	84	
			W+49	85	
			W+50	86	
			W+51	87	
			W+52	88	
			W+53	89	
			W+54	90	
			W+55	91	
			W+56	92	
			W+57	93	
			W+58	94	
			W+59	100	
			W+60	101	
			W+61	102	
			W+62	103	
			W+63	104	
			W+64	105	
			W+65	106	
			W+66	107	
			W+67	108	
			W+68	109	
			W+69	110	
			W+70	111	
			W+71	112	
			W+72	113	
			W+73	114	
			W+74	115	
			W+75	116	
			W+76	117	
			W+77	118	
			W+78	119	
			W+79	120	
			W+80	121	
			W+81	122	
			W+82	123	
			W+83	124	
			W+84	125	
		SUB MID	A-8	01	I
			A-4	96	
			A-3	97	II
			A-2	98	
			A-1	99	
○	×	UHF	14 ~ 69		IV

TOTAL 180CH
{ VHF 124CH
{ UHF 56CH

NOTE:
TO RECEIVE THE SUBSCRIPTION OR PREMIUM PROGRAMMING FROM CERTAIN CABLE COMPANIES.
SPECIAL ADAPTERS MAY BE REQUIRED.

JVC SERVICE & ENGINEERING COMPANY OF AMERICA

DIVISION OF JVC AMERICAS CORP.

www.jvcservice.com(US Only)

JVC CANADA INC.

Head office : 21 Finchdene Square Scarborough, Ontario M1X 1A7 (416)293-1311

(No.YA004)

Printed in Japan
WPC

Other ManualsLib Projects

www.manualslib.com

www.manualslib.de

www.manualslib.es

www.manualslib.fr

www.manualslib.nl

www.manualslib.mx

www.manualslib.tech 30+ Languages